TEXAS
State Journal of Medicine

Owned, Published, and Issued Monthly

by

TEXAS MEDICAL ASSOCIATION

Edited for the Association Under the Direction of the Trustees

by

HARRIET CUNNINGHAM, Managing Editor

AUSTIN, TEXAS

Volume 54

January-December, 1958

PRESS OF

STAFFORD-LOWDON COMPANY

FORT WORTH, TEXAS

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OF

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VOLUME 54 • NUMBER 1 • JANUARY, 1958

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Subscriptions: $3 per year for members; $6 for nonmembers; $7 for foreign. Single copy: 75 cents.

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Roentgen-Ray Surveys Valuable for Diagnosis

On the twenty-first day of last November, the United States Public Health Service released a statement concerning the radiation hazards involved in diagnostic roentgen-ray procedures, giving special emphasis to mass roentgen-ray surveys for tuberculosis. If one takes the time to read the entire statement, he will find it is basically correct. Unfortunately, newspaper headlines in most parts of the country left the wrong impression with the rapid reader who consults headlines only. Many physicians and voluntary health organizations are concerned about the effect this misinterpretation may have on the public's continued acceptance of the use of roentgen ray in diagnosis and treatment of disease. There is already evidence of some misgivings on the part of the public and some confusion in the minds of a few physicians over this question.

Physicians almost without exception have come to appreciate the value of the roentgen ray in diagnosis and treatment of certain diseases. These same physicians will be very reluctant to give up or even limit unnecessarily such an important tool in their armamentarium. This is particularly true of the use of roentgen ray in the early detection of intrathoracic disease. In 1955 the National Tuberculosis Association made this statement in defining fields of usefulness of chest roentgen-ray surveys: "Tuberculosis, lung cancer, non-tuberculous pulmonary infections, intra-thoracic tumors, and cardiovascular abnormalities are conditions for which lasting cure depends upon early diagnosis of the often unsuspected lesion by chest x-ray techniques." Of course,

such a survey is of little value unless proper follow-up is made.

The United States Public Health Service statement concerning radiation hazards encountered in chest roentgen-ray surveys offered certain suggestions that already have been put into operation by both volunteer health agencies and health departments. It seems expedient economically and safer physically to limit chest roentgen-ray surveys to those groups of the population in which the yield is known to be high at present. However, in following this procedure the remainder of the population must not be entirely neglected. Tuberculosis, for example, does not confine its ravages to any one segment of our population, and as long as there is any of it among us there remains a threat to the remainder.

I believe every physician will agree that the dangers, implied and real, of radiation damage largely can be controlled. It seems axiomatic that operators of x-ray machines of any kind should take all recognized precautions to protect their patients, their personnel, and themselves. Machines should be monitored at regular intervals to assure maximum safety. Unnecessary exposure of patient or operator to roentgen rays must be avoided, of course. It is unthinkable, however, to withhold from our patients the wonderful help given us by properly operated x-ray machines in our study of disease. In recommending roentgen-ray studies of the chest or other parts of the body, the physician will continue to weigh the advantage of the information to be gained about the patient against the relatively infinitesimal danger of radiation involved. We must explain this to our patients and to the public so they will continue to accept this valuable aid in the practice of medicine.

Since the discovery of roentgen rays in 1895, the life expectancy in the United States has increased 25 years. Since the same date, the mortality rate has decreased from 1,600 per 100,000 population to 400. I have no doubt radiology has contributed its fair share to these accomplishments. At least, I certainly will continue to use roentgen rays where indicated in combating chest diseases.

—ELLIOTT MENDENHALL, M.D., Dallas.

To Win Friends for Medicine

In this era of snow-balling federal encroachment, medicine needs all the friends it can get to help support free enterprise and the private practice of medicine. The Texas Medical Association, through its central office staff, has initiated a new public relations program to contribute toward the fulfillment of this objective. The visitation program is being extended to include addresses before civic and luncheon clubs.

Four years ago the visitation program was begun with the objective of scheduling an Association officer or staff representative before each county medical society at one of its regular meetings during the year. This program has worked to good advantage. It has produced a greater liaison with county societies and the physician members throughout the state; it has achieved a greater appreciation of programs and activities of the Texas Medical Association; and it has resulted in a greater understanding of socio-economic and legislative issues which confront the medical profession. The visitation program has been strengthened appreciably during the past four years, and requests from county societies continue to be received and honored regularly.

When the Association's representative schedules a visit with a county society in the evening, he also will accept a civic club appearance in that community at noon. Such an engagement usually is arranged by a member of the local society who holds membership in the club. The talk, "The Best Medical Care for All Texans," which is supplemented by numerous audio-visual aids, already has been well received by Kiwanis, Rotary, Lions, and Optimist Clubs in various parts of the state.

The presentation includes the following high-

lights: (1) the purposes of medical societies, (2) a note about the great scientific accomplishments of medicine, (3) positive programs which have been initiated by Texas medicine in the past few years in order to achieve an even higher quality of medical care for all citizens, (4) increasing federal bureaucracy and the government's use of tax monies for health and medical programs, and (5) an appeal to help preserve America's private, personalized medical care which is the finest in the world.

Physicians who have arranged for such presentations to be made before their civic clubs have highly acclaimed their value and have encouraged their wider availability. Greater emphasis is being placed upon this public relations program for 1958, with the hope that new friends will bring added support for the free enterprise system.

Constitutional Amendments To Be Considered in Houston

Two amendments to the Association's Constitution will be voted upon by the House of Delegates at the 1958 annual session in Houston, April 19-22. One concerns the abolishment of the office of Vice-President of the Association, and the other would establish ex officio membership in the House of Delegates for a sectional delegate from each of the nine scientific sections.

Since new officers for most county medical societies are assuming office this month, it would be wise for former delegates to the House to brief new delegates on the background of the two Constitutional amendments so that both the old and the new delegates will have all the information well in mind when discussing the items with other members of their local societies.

Consideration was first given by the House to the office of Vice-President in 1955, when Dr. F. J. L. Blasingame in his presidential address suggested the possibility of having the Vice-President succeed to President-Elect. Various plans were considered by the Council on Constitution and By-Laws, to which the matter was assigned by the House. At the 1957 annual session in Dallas, that Council suggested that, if there is to be a change, the best solution would be to abolish the office entirely. This would involve both the Constitution and By-Laws, and the necessary amendments may be found in the June, 1957, *Journal* (page 446) in the report of the Council on Constitution and By-Laws to the House of Delegates. Provision is made for a President pro tempore and the election of an interim President should the office become vacant. In the Constitution, "Vice-President" would be deleted from Article III, Sections 1 and 2, and Article VII, Section 1.

The amendment regarding sectional delegates was presented by Dr. L. C. Heare of Port Arthur and also would require changes in both the Constitution and By-Laws. The Constitutional change would add in Article VII, Section 1, to the list of ex officio members of the House a sectional delegate from each of the scientific sections.

All physicians, particularly delegates and other county society officers, are urged to study these issues.

College of Surgeons' Gift to the Library

The Texas Medical Association is grateful indeed to the American College of Surgeons for the gift to the Memorial Library of its entire collection of reprints, consisting of 550,000 classified and 125,000 unclassified, and other materials on practically every surgical subject.

After a decision by the Board of Regents of the American College of Surgeons to change the character of its library, the Board voted to award this valuable collection to the Texas Medical Association's Memorial Library. In accepting this gift, the Library has agreed to extend its services to any fellow of the American College of Surgeons who requests them.

The collection of reprints will be a great asset in that it will enable the Memorial Library to render an even more effective and complete service to physicians of the state.

The Cost of Medical Care

Medicine has a great responsibility in regard to the cost of medical care. Physicians have an obligation to evaluate the country's economic position and to make certain that the general public can obtain a high quality of medical services at a fair price. Everyone today is concerned with the high cost of all necessities of life, such as food, housing, and clothing; and it is not unusual for physicians to hear comments and receive inquiries about the cost of medical care.

It is true, of course, that medical costs—like all other necessities of life—have increased in recent years. However, medicine has a factual story to tell, which should make physicians proud of their comparative position.

First, the cost of all commodities and services in this country has risen much faster than medical care prices. The cost of medical care has been a follower, not a leader, in this spiral of inflation. The general cost of living has increased by 91 per cent during the past 16 years, while medical care and drugs have risen only 78 per cent.

Second, it is significant to note that the fees of physicians and surgeons have not increased nearly as much as other necessities of life. During the 20 year period from 1936 to 1956, the United States Department of Labor reports that the price of men's haircuts increased by 221 per cent, shoe repairs 124 per cent, furniture 123 per cent, movie admissions 114 per cent, public transportation 113 per cent, laundry service 108 per cent, and both automobile repairs and dental fees 84 per cent. During that same period fees charged by general practitioners rose 79 per cent, whereas surgeons' fees increased by only 59 per cent.

Third, the average American family is spending 4.5 cents out of each dollar today for medical care. The American public is spending about $11 billion a year for total medical care; that is, physicians' services, hospitals, drugs, dentists' services, health insurance overhead, and products and appliances. By comparison, the American people are spending more than $13 billion each year on recreation and almost $9 billion on alcoholic beverages, which is 50 per cent more on alcoholic beverages than for physicians' services and hospitals combined. Almost as much is spent annually for tobacco as for doctors and hospitals combined.

And finally, the patient is getting much more for his medical dollar today. The past half century has been marked by great advances, among them the increased life expectancy at birth, declines in infant and maternal mortality, and the development of new drugs and treatments.

These are only a few of the facts, but they should be sufficient to help a physician answer the inquiries from patients and others. These facts offer evidence that American medicine is doing its share to see that high quality medical care is available to all at a fair price.

★ Current Editorial Comment

Here Is What They Think of Prepaid Health Care In Michigan

What type of prepaid medical care coverage do you have and what additional medical services would you like included? These were two of the primary questions asked in the opinion study recently conducted by the Michigan State Medical Society. This survey resulted in a variety of answers from the more than 640,000 persons contacted, with a surprising number being unfamiliar with the protection they purchased and the price they had to pay.

Eight out of 10 people in Michigan are covered by some form of health insurance, with 65 per cent of these being enrolled in Blue Shield. Eighty-one per cent of the people who have Blue Shield like it and are satisfied with its performance, which is a higher percentage of favorable attitudes than that of the insured of any other company.

Blue Shield subscribers believed that they are now paying approximately twice as much for this protection as is actually being charged; however, two-thirds of those interviewed were willing to pay even more if they could get what they desired in a contract. As one would imagine, they wanted many different types of benefits, primarily, surgical coverage in the hospital, diagnostic roentgen rays, medical visits in the hospital, first aid and minor surgical treatment. Relatively fewer people were interested in having medical service in their homes, and nearly one-half of the people favored a deductible plan because of the lower cost.

After studying the outcome of this survey, the medical society appointed a Medical Care Insurance Committee to examine all contracts submitted, to recommend endorsement of any contract that met certain minimum standards, and to develop review committees in each district. In addition, the Michigan Health Council recommended to the Michigan Blue Shield that consideration be given to including several benefits, among which were surgery wherever performed, diagnostic roentgen rays out of the hospital, therapeutic roentgen rays, consultations, and surgical assistants. It was suggested further that there be three contracts applying to income levels ranging from $2,500 to $7,500 annually. And finally, the doctors recommended that there be deductible and co-insurance features, which would mean that the patient's share of any fee would be $5 or 10 per cent, whichever was higher, and that there be an annual limit on such payments.

The Michigan Blue Shield is now preparing contracts to incorporate these changes, most of which will be adopted, and the new contracts are expected to be offered early in 1958.

One interesting observation not connected with the opinion study was a current undertaking of the Michigan State Medical Society. Apparently a group representing the Society goes to Washington annually to meet with Michigan lawmakers who represent them; they discuss current problems as well as policies and the doctors voice their opinions on current issues. To me, this certainly would seem to be a worth-while project in the constant battle against the socialization of medicine.

Texas Blue Cross-Blue Shield recently prepared three new plans, known as the 200, 300, and 400 services. These new plans incorporate practically every feature of the proposals made in Michigan. One basic difference, of course, is that the Michigan plans are on a service basis, whereas in Texas all benefits are indemnity. These new Texas plans incorporate both the deductible and co-insurance features.

After having attended the meeting of the Michigan State Medical Society and having listened to the discussion of the survey and the resolutions presented, it is my belief that this is one of the major steps toward bringing to the attention of the public the need for health insurance not only in Michigan but throughout the country. It also served to highlight the job the plans are now doing and the interest which the physicians and the Blue Shield plans have in offering better service in the form of benefits for the members.

—ROY T. LESTER, M.D., Dallas.

♦ Dr. Lester, Medical Director, Blue Cross-Blue Shield of Texas, 2208 Main Street, Dallas 22.

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President's Page

Communist Satellites and Common Sense

When Sputnik took off into outer space recently, it caused a great deal of serious thinking in our country. If it can cause our people to continue to think, then it can be considered one of the very few worthwhile contributions that the Russians have made to the United States in recent years because serious thinking has almost become a lost art during the past few decades.

For the past quarter of a century when new crises have occurred—and they have been all too plentiful—the politicians have always had a ready answer. The answer apparently has come without too much thought and, regardless of the party in power, it has been the same—"We need another bureau and more money." With even less thinking, except at income tax paying time, the people of this country have more or less blindly or willingly granted their request. If history repeats itself, all the people in America who have no regard for the tax load, the national debt, or the economic security of this country will be yelling for more money for their pet projects and selfish interests under the guise of surpassing Sputnik. Whether their idealistic philosophers call for federal aid to education, more dams, more warehouses for surplus products, more federal housing, or more federal aid, they will use Sputnik to try to lull the taxpayers into further complacency or to scare the politicians into a larger budget.

As a result of our previous crises, requests for more money and more bureaus, together with the willingness of the average citizen to go along, we have ended up with so many bureaus that we now need new bureaus to coordinate existing bureaus. Only God knows how many bureaus we do have. We have amassed a national debt of over 280 billion dollars and it is still climbing. Crises have caused us to build our annual budget to more than 70 billion dollars a year and it seems to increase year by year. Adding bureaus has led to a bureaucratic form of government that is so gigantic, so complicated, and so far from both the voting citizens and their elected officials that only

a dictator with the wisdom and physical endurance beyond human expectancy could administer it.

Since supermen no longer exist, there is only one solution to our very serious problem. This solution can be reached if every dedicated American citizen will only use his common sense, think, and act.

Instead of having more bureaus, let us have fewer.

If we really need a satellite, let us put the responsibility of building it in the hands of the proper department and give this department all the money it can intelligently use. But let us take the money from the budget of the abandoned bureaus, from foreign aid, or from some other place where it is not so critically needed.

Let us give this department all the personnel it wishes, but we must be sure each individual who goes to work on this serious project is screened by our most efficient Federal Bureau of Investigation and none is admitted about whom there is the slightest question of loyalty to our country.

Since such a program requires a lot of scientific training and knowledge which only our schools and colleges can give, let us stop complaining about our poor teaching and join the 90 per cent of dedicated, loyal teachers, who not only have had the desire but also have always tried to do a good job. In doing this, we can help them reshape the curriculum and teaching methods so most of our graduates will have both the cultural and scientific background so essential to this atomic age.

When our forefathers were faced with crises, and there were many in conquering this great wilderness and obtaining their independence, they had only common sense to rely on. They asked for more daylight hours in which to work, more strength, greater endurance, and divine guidance. With these they built the greatest country that history records. Certainly nothing less will perpetuate this nation. During one of the most critical stages of the American Revolution, General Washington left strict orders one evening, "Leave only Americans on guard tonight." Today let us paraphrase and expand this historical statement to read, "Let all dedicated Americans stand guard day and night until we return to a sound economy and the last threat of communism and socialism is removed from our beloved country."

Denton Kerr

ORIGINAL ARTICLES

Texas: Home of Aviation Medicine

GREEN PEYTON

Randolph Air Force Base, Texas

WHEN a class of 122 young physicians, selected at random from over the nation, assembled recently for a postgraduate course at the Air Force School of Aviation Medicine at Randolph Air Force Base, 18 were from Texas—several times the number from any other state.

All but 2 of the 18 had studied medicine at Texas colleges. A dozen had served their internships in Texas hospitals. Here they were, in freshly fitted uniforms, taking the first step toward specialization at an Air Force medical institution in Texas.

Green Peyton is chief of Information Services, Air Force School of Aviation Medicine, Randolph Air Force Base, San Antonio.

A pioneer in aviation medicine and a Texas institution since 1926, the School of Aviation Medicine supplies aircraft manufacturers, major airlines, and Air Force units everywhere with physicians trained in air medicine. A central laboratory for research as well as a consultant for flight surgeons, the School concerns itself increasingly with new conditions of high speed, high altitude flight.

Staff analysts considered the high proportion of Texas trained doctors in the class a striking demonstration of this state's advancement in medical education. That the doctors were chosen for an introduction to aviation medicine was an equally striking reminder of the Air Force School's contribution to medical teaching in Texas.

When Texans count their resources for study in the arts of healing, they often may forget that these facilities include two of the top military medical schools in the country. Brooke Army Medical Center, at Fort Sam Houston, is the main source of public health instruction for the ground forces. The School of Aviation Medicine is its Air Force counterpart.

Brooke, with its large, modern hospital, is generally considered an outstanding center for training in half a dozen or more medical specialties, ranging from pathology to orthopedics. The aeromedical school at Randolph Air Force Base concentrates on one: aviation medicine. It is the only recognized specialty that originated in military practice.

In the Air Force, professional education is distinguished from technical instruction in the various skills that have to do with flying. Professional studies are concentrated in the Air University system, which has its headquarters at Maxwell Air Force Base, outside Montgomery, Ala. The School of Aviation Medicine is its medical branch, comparable to the Medical Branch of the University of Texas in Galveston.

There is a difference, however, between the Air University and most civilian seats of academic wisdom. The Air University has no undergraduate department—it is concerned solely with graduate work, assuming that the Air Force officer already has his basic education.

Similarly, the School at Randolph does not provide the fundamentals of medicine. Like the Institute for Advanced Study at Princeton, N. J., it is devoted to postdoctoral learning. Its students come to it only after they have received the doctor of medicine degree and completed their internships. Its courses are focused on the specialized aspects of aviation medicine.

Fig. 1. The headquarters building of the School of Aviation Medicine is located at Randolph Air Force Base.

The School is older than its parent. It was founded at Mineola, N. Y., in January, 1918, for the investigation of medical conditions affecting flyers in the newly expanded World War I air arm. The educational units comprising the Air University were brought together only after World War II. By that time the medical school was well established, with a substantial tradition behind it.

HISTORY OF SCHOOL

The School of Aviation Medicine has been a Texas institution since 1926, when it moved to what is now Brooks Air Force Base, on the southern outskirts of San Antonio. After Randolph was opened on high ground north of the city in 1931, the School occupied the nucleus of its present headquarters there.

The reason it first came to Texas was to be near the concentration of flight training activities in this area. At that time, aviation medicine emphasized air cadet selection and the problems of the fledgling flyer.

Over the years, however, air medicine has concerned itself increasingly with new conditions of high speed, high altitude flight, and less with the routine troubles of the beginning flyer. At the same time, flight training has dispersed about the country.

Although Randolph now is the headquarters of the Air Training Command, as well as of the School, the two have no organizational connection. The base has become chiefly a site for administrative offices, not an operational activity to any great extent. The School, as noted, belongs to the Air University, a separate command.

Its association with Air Force medicine is uniquely intimate and worldwide. Besides furnishing trained physicians to Air Force units everywhere, it is the central laboratory for basic medical research on the complex problems of high performance flying.

Flight surgeons throughout the Air Force send their more difficult clinical cases to the School at Randolph for consultation with the specialists on its staff. It is the Air Force repository for certain types of medical records—for example: those having to do with hearing and electrocardiograms.

Because of the variety of its functions, the School has a rather complicated system of command relationships. Its educational policies, of course, are supervised by the Air University. In research matters, it works closely with the Air Research and Development Command, although not a part of that organization. Its clinical activities, residency program, and other purely medical responsibilities are under the direct guidance of the Air Force Surgeon General.

From the very beginning of the School, which may be considered the beginning of aviation medicine in this country, the distinctive nature of its field has been apparent to those who studied or practiced the subject. Although the medical problems of flying may be classified by the traditional areas with which they are associated—ophthalmology, pulmonary physiology, psychiatry, and so on—they are all marked by one fundamental difference from other disorders in these areas. They occur, in most cases, only among people who fly.

The growth of aviation after World War I and its widespread adoption by the traveling public drew attention to the peculiar character of these studies. Their differentiation from the body of medical practice had become so evident by the spring of 1953 that the American Medical Association gave its approval to the designation of aviation medicine as a specialty.

Standards commensurate with those in other major specialties were adopted for the professional training of physicians in this field. A 5 year program of study and supervised practice, leading to board certification, was established. The American Board of Preventive Medicine is recognized as the accrediting agency.

STUDY PROGRAM

The School's educational system is closely coordinated with the specialty training plan. During the first 3 years of academic study and residency, the School not only offers much of the curriculum, but also acts in a supervisory capacity for the Surgeon General.

Of the two main courses in aviation medicine provided by the School itself, the 9 week Primary Course is intended as an introductory survey of the subject. Designed for young physicians, fulfilling their military obligations before they enter practice, it is a prerequisite to formal training in the specialty. Its graduates, totaling about 500 a year, become squadron medical officers.

They are, so to speak, the general practitioners of aviation medicine. Apart from giving standard medical examinations for flying, their duties are largely confined to the treatment of conditions not peculiarly associated with flight. They are required to complete a year of Air Force service before they may apply for entry into the advanced program.

For not more than 30—and usually about half that many—carefully selected candidates, specialty training then begins with a year of study at either Johns Hopkins or Harvard University. There they learn preventive medicine procedures. This academic phase, which is monitored by the School, brings with it the degree, master of public health.

It is followed by a year in the Advanced Course at the School of Aviation Medicine. The next stage is a year's residency, also monitored by the School, in one of several Air Force institutions, which include the School itself. The last 2 years provide supervised practice in major air commands, under the tutelage of experienced flight surgeons who are certified in aviation medicine.

Several other courses for physicians are offered at the School from time to time. They include a refresher course, covering recent advances in air medicine, springing mainly from the development of new flight equipment. It is given to senior flight surgeons

who have received no formal instruction for some years. There is also a review course for older medical officers preparing to take the board examinations.

One indication of the School's identity of interest with the specialty program may be found in the flight surgeon who directs it. Major General Otis O. Benson, Jr., now in his second tour as commandant, was intimately associated with the round of conferences and inspections of Air Force facilities by the American Medical Association that led to the recognition of aviation medicine as a special area.

Fig. 2. Major General Otis O. Benson, Jr. serves as commandant of the School of Aviation Medicine.

Appointed immediately afterward as director of medical staffing and education at Air Force Headquarters in Washington, General Benson became the vice chairman for aviation medicine on the American Board of Preventive Medicine. He has continued to serve in this capacity since his return to the School as commandant in 1956. General Benson's position at Randolph is a unique observation post from which to spot young medical officers of unusual promise.

The Air Force naturally offers this training as a means of assuring the continuity of its own medical leadership, in assignments of professional responsibility and command. At the same time, it is building a corps of qualified specialists in a field for which civilian medicine so far offers no comparable preparation.

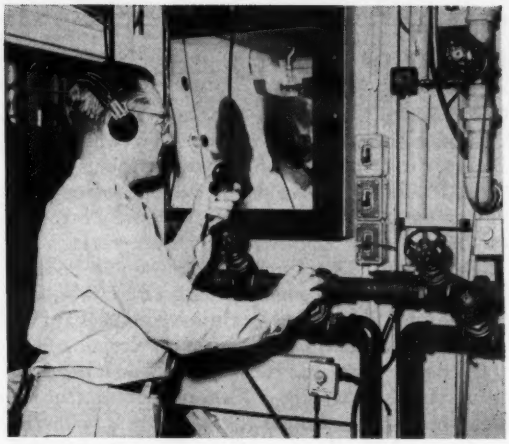

Fig. 3. A scientist monitors an explosive decompression test in a high altitude chamber.

Flying is a science in which the Armed Forces necessarily do the pioneer work of research and development. Since air power has come to dominate the art of self-defense in war, military aviation has to explore new weapons and advanced techniques or lose its capability to repel aggression.

For the same reason, aviation medicine keeps pace with the progress in aeronautical technology. As piston powered planes give way to jets, and jets to rockets, probing constantly higher into the reaches of the upper air, flight medicine defines the conditions for man's survival in a strange environment and

Fig. 4. The adviser for research, Dr. Hubertus Strughold, is planning an experiment in a sealed space cabin.

determines how best to maintain the flyer's well-being and efficiency.

But civil aviation follows not too far behind the military vanguard. Just a few years ago, jet aircraft were considered engines of such enormous potency that they could be used only for destruction. Today the airlines are converting to jets. Tomorrow, rocket craft, now limited to brief flights on the borders of space, may become a routine mode of transportation. Nuclear powered passenger planes are well within the range of possibility.

As these advanced carriers become available to a peripatetic populace, the field of aviation medicine continually widens. Elements of this special area already are being incorporated into the curriculums of standard medical schools, under the impetus of the Commitee on Medical Education for National Defense (MEND), led by Dr. Stanley W. Olson, dean of the Baylor University College of Medicine, Houston.

At least one large university, Ohio State, participates actively in aeromedical teaching and research through its own Aviation Physiology Laboratory. Most aircraft manufacturers and all the major airlines maintain medical staffs composed of physicians trained in aviation medicine. For these and other civilian agencies, the Air Force School so far has been the main source of qualified professional personnel. Its graduates, once they have satisfied their military commitments, often choose to continue the practice of aviation medicine.

NEW FACILITIES

The School long ago outgrew the facilities available to it at Randolph. Shortly after the Communist invasion of Korea, all its educational activities, except those for commissioned medical officers, were transferred to an auxiliary teaching center at Gunter Air Force Base, Ala. The Gunter Branch gives specialized instruction to flight nurses of the Navy as well as the Air Force, to dentists and dental assistants, to experts in aeromedical administration and supply, and to laboratory technicians.

Still the quarters at Randolph have been found inadequate. And so, early in 1957, ground was broken for a new School of Aviation Medicine at Brooks Air Force Base, where the School had begun its career as a Texas institution. The $10,000,000 installation will be ready for occupancy by July, 1959, if not sooner, and will be one of the most modern medical centers in Texas.

Although the plant at Brooks will have no clinic, it will work in close cooperation with the new 1,000 bed hospital at neighboring Lackland Air Force Base. A closed circuit television system will link the School with Lackland for classroom demonstration of clinical procedures. The academic halls will accommodate as many as 700 students, more than twice the present capacity of the School. Several times the current laboratory space will be provided for research.

In this new establishment, Texas medicine will have a unique landmark; an institute of world renown, devoted to the health of men in flight to the farthest limits of the universe.

♦ Mr. Peyton, Information Services, School of Aviation Medicine, Randolph Air Force Base.

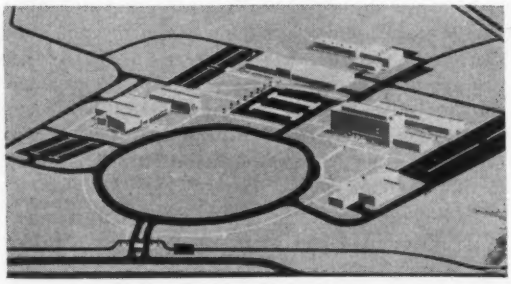

Fig. 5. Pictured is the artist's conception of the new School of Aviation Medicine under construction at Brooks Air Force Base.

Transport Of Patients By Air

What the General Practitioner Should Know

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AS OUR technology has developed ever more rapid means of transportation and they have been proved safe, the traveling public has utilized these faster means to keep pace with our modern world. There were 41,623,000 passengers flown over 24,338,000,000 passenger miles by the various American scheduled airlines during 1955. All age groups were included, and two-thirds of the passengers were males. This total number constituted 33 per cent of all the

intercity passenger mile market in the United States. Recent surveys also have shown that approximately 50 per cent of passengers travel from the North American continent to Europe by air.[19] Air travel is used despite the distance of most airports from downtown areas as it provides speed and thus cash saving to most businessmen. At the same time it offers comfort.

These facts are of interest to general practitioners for their patients are utilizing this transportation either as unknown patients in ambulatory status or as litter cases. Various estimates of the number of ambulatory patients using scheduled airlines have been made, and Armstrong[1] has estimated 3 per cent of the airline passengers are actually ambulatory patients in some stage of disease or illness. Many patients fly to and from the larger medical centers in every stage of early to late disease and serious illness. Terminal patients frequently seek air travel to their homes. Types of air vehicles available include the scheduled airline, both conventional (propeller) aircraft and soon jet airliners, and the air ambulance. Most airliners have oxygen available for passenger use on request. There are some 350 air ambulances in the United States. They are one or two engine, two to five place aircraft licensed by the Civil Aeronautics Administration. Ordinarily any patient with a physician's certificate may be transported in an air ambulance, which generally is equipped with litters, oxygen, bed pans, urinals, emesis basins, blankets, pillows, sheets, and an in-flight suction apparatus. Poliomyelitis patients are flown in military aircraft by special arrangement of the National Foundation for Infantile Paralysis with the Department of Defense.

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In general, any patient who is transportable can be flown safely by airliner or air ambulance if adequate provisions are made for his care. Specific problems arise in cardiac, pulmonary, anemia, eye, and other cases. Air travel involves decrease in total atmospheric pressure and in partial pressure of oxygen, reduction in ambient air temperature, and the presence of apprehension and turbulence.

It is thus obvious that to render the complete care required of a physician, he must be aware of the advantages and the problems of aerial transportation and capable of answering or securing an answer to his patient's questions. Sources of help in this area are several basic texts in the new specialty of aviation medicine. Other sources are the airline medical directors and the doctor's military colleagues who are specialized in this new field.

DIFFERENCES FROM OTHER MODES OF TRAVEL

All the patient's problems in air travel are the result of a very few basic changes in environment and thus in the patient, occurring as the aircraft climbs to altitude. These changes could be summarized as follows:

Physiologic:
1. Decrease in atmospheric pressure.
2. Decrease in the partial pressure of oxygen.
3. Reduction in ambient air temperature.

Psychologic: 1. Apprehension.

Mixed: 1. Turbulence.

At sea level the atmosphere exerts a pressure on the body of 14.7 pounds per square inch (psi). Approximately 21 per cent of this pressure is exerted by oxygen for it comprises that percentage of the gases in our atmosphere. As an aircraft leaves the earth's surface and climbs to altitude, this total atmospheric pressure decreases until at 18m′ (m′=1,000 feet) it is only one half the sea level value or 7.35 psi. As the total pressure is reduced, so is the partial pressure of oxygen, thus creating a shortage of this vital element in the inspired air. The reduction in total pressure has some important effects on all gases found in the body. On ascent (with reduced pressure) the gases expand, and because of their saturation with water vapor they expand more than expected (fig. 1). This expansion causes difficulty in such diverse areas as the middle ear, sinus, and intestine. Aside from the reaction of these "trapped" gases, if the altitude reached is in the 30,000 feet zone, nitrogen dissolved in the body fluids may return to its gaseous state and produce the syndromes of bends, chokes, neurologic and skin lesions, or neurocirculatory collapse which are termed dysbarism.

Increased altitude also means reduced temperature. The temperature drops roughly 2 C. with each 1,000 feet increase in altitude.

Apprehension may be caused by exposure to a new form of travel, loss of contact with Mother Earth, an engine sputter, the silent engine on change to high blower, or the story of the recent airliner crash in the headlines.

Turbulence may be encountered in rough weather, in an occasional cloud, or by flying at low altitudes on a warm afternoon. Turbulence alone or turbulence plus apprehension may cause airsickness.

It is the job of the physician to understand these changes and to evaluate his patient in the light of

these stresses. He must then make an intelligent decision concerning travel by air. The physician must understand the things which can cause apprehension and relieve this apprehension by timely explanation. He also must be aware of the aircraft to be used and the provisions made for coping with the atmospheric changes noted previously. Most airliners are pressurized and thus able to maintain a maximum cabin altitude of 8,000 feet during any portion of the flight. This relieves worry about pressure and oxygen effects unless cabin pressure is lost. Such a possibility should be considered, and especially in our coming jet airliners in which the consequences of such pressure loss are much more serious. The ability to maintain higher actual altitudes through cabin pressurization also relieves the turbulence problem during most of the flight and allows maintenance of a comfortable cabin climate.

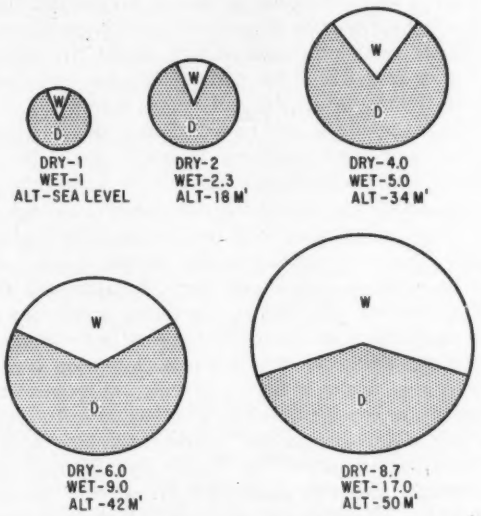

Fig. 1. Relative expansion of a gas bubble with altitude is shown.

PATIENT SELECTION

The military services have set up an elaborate aeromedical evacuation system with some broad criteria for patient selection.[5] The following cases are ordinarily not acceptable for air transportation by MATS (Military Air Transport Service):

1. Patients in infectious stages of a quarantinable disease.
2. Patients with a fatal prognosis, in a moribund or semimoribund state, unless life saving measures are available at the destination hospital which are not available at the point of origin.
3. Patients with permanently fixed tie wires between the jaws.

Other cases require special consideration before acceptance:

1. Conditions involving cardiac failure.
2. Severe anemias.
3. Respiratory embarrassment.
4. Conditions in which quantities of gas are confined in body cavities, such as pneumothorax.

In order to allow better scheduling and handling of patients, a patient classification system is utilized. All neuropsychiatric patients are placed in class I, and this is subdivided into categories for locked ward patients requiring restraints and sedation (class IA), locked ward patients not requiring restraints but who do require watching (class IB), and open ward patients (class IC). All other litter patients are placed in class II which has immobile (IIA) and mobile (IIB) subdivisions. Class III is made up of walking patients requiring medical care, and class IV is walking patients requiring no care.

It should be emphasized that the selection and classification procedures mentioned are for use in a very formalized air transport system operated by the Military Air Transport Service. Whereas these same selection and classification procedures apply in general to all aeromedical evacuation, in the air rescue and tactical aeromedical evacuation systems, they are frequently ignored in order to provide more rapid definitive medical care to the seriously injured. Indeed it has been found that any patient who is transportable by any means can be transported by air if the proper facilities are available. Some evidence confirming this statement may be found in a summary of 41 air rescue missions in the Caribbean area.[2] These cases included numerous acute abdomens, burns, fractures, and head injuries, and only 1 in-flight death occured. This death involved a patient with third degree burns over approximately 80 per cent of his body.

Though the severity of illness is not the same, the airlines and air rescue or front line (tactical) aeromedical evacuation have much in common in that there is little selection of patients. Most anyone can purchase an airline ticket and a medical history or physical examination is not a prerequisite to such a purchase. The Air Transport Association regulations direct carriers to refuse to carry any passengers whose status, age, and physical or mental condition is such as to (1) render him incapable of caring for himself unless he is accompanied by an attendant, (2) render him objectionable to other passengers, and (3) involve hazard or risk to himself or other persons or property. As the only selection is done by the ticket agent, very few passengers are rejected unless they are obviously intoxicated or they show overt signs of an infectious disease. Therefore, any screening re-

quires the patient's cooperation in volunteering information or exhibiting illness easily recognizable by nonmedical personnel. Any attempt at further screening is impractical. It is of importance for the physician to discuss the possible modes of travel with his patients. After evaluation of the probable effect of altitude on the patient's condition if air travel is elected, the patient should be given a letter notifying the airline of his condition and clearing him for such travel (fig. 2).[13]

CERTIFICATE OF ATTENDING PHYSICIAN

Name of Patient:_____

CONDITION OF PATIENT: (Check One)

Stretcher Case___ Wheel Chair Required___ Ambulatory___

Does patient require an ambulance at destination?_____

If yes, give full particulars, i.e., name of concern providing ambulance and destination of ambulance.

DIAGNOSIS:

Does patient suffer from a communicable disease in active form? _____

Does patient suffer from a malady which, either because of the nature of the malady itself or because of the treatments required, can create an odor which, by normal standards, could be considered offensive to other passengers?_____

If the answer is "yes" to either of these questions, please explain: _____

Unless you can assure that the patient is essentially capable of taking care of his/her personal needs en route (i.e., toilet, feeding, and medication requirements), the airline will require that the patient be accompanied by an individual capable of taking care of the patient's personal needs during flight and at transit stations en route, if any. Please state if, in your professional opinion, the patient is able to care for his personal needs en route.

In my opinion, the proposed flight(s) to be undertaken will not be contraindicated for this patient.

Signature of Physician_____

I am a graduate of_____Medical School, and am

Licensed to practice in_____

Distribution: The original copy of the certificate is to be attached to the applicable flight coupon covering the passenger's travel and will be sent therewith to the accounting department when the coupon is lifted. When more than one flight coupon is involved, the following notation should be made in the endorsement section on each coupon: Medical certificate attached to back of ticket cover. The second copy must be attached to the back cover of the passenger's ticket so that the information contained therein will be available to flight service and ground personnel en route.

Fig. 2. A sample certificate of the attending physician, to be prepared in at least two copies on the physician's letterhead, gives the doctor's opinion of the flight's contraindications for his patient. [After Schreuder, O.: In-Flight Medical Emergencies in Airline Operation, presented at Aviation Medicine Symposium, Wright-Patterson AFB, Ohio (Nov. 6-7) 1956.]

SPECIFIC PROBLEMS

Travel by air requires special consideration in some cases because of the mild hypoxia involved. Smoking and alcoholic beverage intake add to the hypoxia produced by altitude.

CARDIAC CASES

Hypoxia increases cardiac output and therefore increases the work load of the heart. Any patient whose heart is in a borderline or frankly overworked state would be harmed by exposure to low oxygen tensions. Patients with congestive failure should fly only if oxygen is available for their continuous use; those with recent myocardial infarction should not fly. When a person is able to walk 100 yards and climb 12 steps without symptoms, flights of 4 to 5 hours' duration in a pressurized airliner are permissible.[18]

Graybiel[7] has prepared a table which is useful in determining the severity of flight stress by evaluating such factors as distance to the airport, number of steps in ramp, duration of flight, weather, and the like. He then classified various cardiac conditions as to their ability to withstand three different degrees of flight stress. Patients with the following conditions were felt to be unable to withstand even minimal flight stress without serious risk of permanent injury or danger to life: marked cyanosis, severe shock or unconsciousness caused by an attack of arrythmia, markedly enlarged heart, extreme valvular stenosis, impending or resolving infarction, hypertensive encephalopathy, angina decubitus, moderate or more congestive failure, and/or a cardiac reserve rendering the patient unable to climb one flight of stairs. Again however, any patient who is transportable may be transported by air if proper facilities are available for his treatment or care.

PULMONARY CASES

Asthmatic and other pulmonary conditions have received special study because of the possibility of patients with these conditions being more likely to develop symptomatic hypoxia. In a study of cardiopulmonary patients transported on MATS air evacuation aircraft (nonpressurized) flying below 10 m′, of some 215 patients with asthmatic conditions flown, only 6 had symptoms. Three of these had acute attacks of asthma. This shows there is no contraindication to an asthmatic patient being flown if he is under control with medication and oxygen is available. Patients with pneumonia, atelectasis, lung neoplasm, and pleural effusions were also flown with few symptoms reported.[14]

Poliomyelitis cases would be flown only in an air ambulance or in a military (MATS) aircraft. The airlines will not accept a patient in a respirator. A patient with acute poliomyelitis should not be flown,

for physical activity has been shown to have an adverse effect on such cases. The National Foundation for Infantile Paralysis has made arrangements with the Department of Defense and the United States Air Force to transport poliomyelitis patients via MATS air evacuation aircraft. Special teams and the School of Aviation Medicine portable respirator are used. Certain precautions are necessary before transporting such a patient. Adequate ventilation must be assured by use of a device such as the Bennett ventilometer to obtain the actual tidal air. This actual value is then compared with the required value found on the Radford nomogram. A tracheotomy should be done if there is bulbar involvement producing difficulty in swallowing or if secretions are excessive. A chest roentgenogram should be taken 24 hours prior to flight to rule out atelectasis. Constant in-flight care is necessary with particular regard for removing secretions which tend to thicken in the dry air at altitude and maintaining adequate respiratory function in the less dense air in which the respirator is less efficient.[4]

ANEMIAS

Severe anemia of any type interferes with oxygen transport, thereby producing an anemic type of hypoxia which can only be made more severe by the addition of altitude hypoxia.

In 1947 Sullivan[15] reported the case of an 18 year old Negro soldier who developed nausea, vomiting, and left upper quadrant pain during a flight from the East Coast to California at an altitude of 10 to 16 m′. These complaints occurred on the return flight and persisted. Sickling was found on examination of his blood. Since that time more than 30 cases exhibiting the triad of splenic infarction, sicklemia, and aerial flight disturbances have been reported. It is interesting that sickle cell disease (all S hemoglobin) is not necessary, for many of the patients have had only sickle cell trait. Electrophoretic analysis of hemoglobin has been helpful in studying these cases. Some cases of splenic infarction have been reported in Negroes after flying in commercial airliners at cabin altitudes of only 4 to 6 m′. All of these cases have had sickle cell—hemoglobin C disease, which indicates patients whose hemoglobin analysis shows S and C hemoglobin should be advised not to fly at all.[12]

EYE CONDITIONS

The importance of minimizing or avoiding the effects of both hypoxia and gas expansion in eye cases must be stressed if vision and even the globe itself is to be preserved. The injured or post surgical eye may have air injected in the anterior chamber to reform it. Flight at low altitudes or in pressure cabins is necessary to prevent gas expansion. Above 10 m′ hypoxia produces measurable dilatation of the retinal and choroidal vessels, a rise in intraocular tension, and a decrease in pupil diameter. All these changes produce adverse effects in the injured or post surgical eye case. The retina has the highest oxygen demand of any body tissue; therefore, patients with eye conditions should have oxygen or cabin pressurization above 4 m′.[3]

GAS EXPANSION GROUP

Gastrointestinal Surgery.—The intestine always harbors some gas and ordinarily could handle its expansion by elimination either orally or rectally. Occasionally spasm or other abnormality may render this elimination difficult or impossible, and the intestine will be distended. This is not desirable in acute abdominal or post surgical cases. One author suggests a 10 day delay between surgery and air transportation.[10] Gas expansion will cause more peritoneal soiling in a ruptured ulcer although such cases have been transported successfully. Patients who have had a colostomy should be warned of the expansion problem and told their colostomy bags should be slightly larger.

Pneumothorax.—Although patients with pneumothorax have been flown with little difficulty,[14] they are still cause for careful evaluation in regard to size and their expected expansion. Dowd[6] has reported a death in a patient flying aboard a Canadian airliner after a pneumothorax refill. If such patients are to be flown, emergency equipment for needling the chest should be available.

Neurosurgical Complications.—Patients who have had air studies (ventriculograms and the like) should not be flown until the air has been replaced by fluid.

MISCELLANEOUS GROUP

Pregnancy.—Most airlines feel that the only contraindication to air transport of the pregnant woman is the danger of delivery during flight. A pregnant woman is accepted for flight without question through the eighth month. During the ninth month of pregnancy she will be accepted if she furnishes a certificate from her physician dated within 72 hours of departure, indicating he has examined her and found her to be physically fit for transportation from a given place to a given place on a certain date and estimating the date for the birth. Such patients should select rearward facing seats to allow use of only a loosely fastened lap belt across the legs. The patient should be warned of possible gas expansion in the gut and the possibility of dyspnea. False labor contractions following flight in the last month of pregnancy are not uncommon. A study of abortion in 1,000 women ages 16 to 42 years traveling during

World War II revealed no correlation between abortion and travel.[10] In any case travel by air would be less traumatic than ordinary surface means of transportation.

Ingalls recently has advised pregnant women of the danger of exposure to even the mild hypoxia of a cabin at 8 m′ altitude. Data from animal experiments[8] and from a few documented human cases[9] indicate the possibility that such hypoxia could cause congenital deformity in the fetus. It should be emphasized that human data in this area are largely lacking; I have a project under way to obtain some evidence either confirming or refuting this hypothesis.

Fractures of the Mandible.—The basic problem in transporting patients with fractures of the mandible is the possibility of developing air sickness. Any patient with permanent wiring between jaws should not travel by air for with the onset of air sickness he may aspirate vomitus before such tie wires could be removed. Either a "cotter key" or rip cord quick release mechanism should be employed with elastic bands.[16] The incidence of motion sickness can be reduced by the use of Bonamine, Benadryl, or Marezine (50 mg. three times a day); Phenergan (25 mg. three times a day); or Dramamine (100 mg. three times a day).

Neuropsychiatric Conditions.—Epilepsy tends to manifest itself at altitude due to apprehension, hyperventilation, and hypoxia. Consideration of sedation, reassurance, and oxygen may prevent such difficulty. In advising a psychiatric case to fly, the safety of the other passengers should be considered. Certainly if the patient requires sedation and restraint, he must be transported in an air ambulance. Recent studies[17] have shown such patients do as well if continued on the ataractic drugs as if they were given 7.5 gr. of Amytal preflight. Further studies are under way on the transport of patients with head injuries and on the use of drugs.

Communicable Disease.—Patients with a communicable disease are not accepted for flight because of the danger to others. Particular care is taken to avoid transportation (known or unknown) of one of the international quarantinable diseases (cholera, plague, typhus, relapsing fever, yellow fever, and smallpox). The contraindications to flight are not engendered by the danger to the patient, but by the public health import of such movement.

Infants and the Aged.—Infants are accepted by most airlines as soon as they leave the hospital. Some physicians believe infants should not be transported by air until they reach 10 days of age because of their lack of ability to stand a respiratory stress situation. The only in-flight infant deaths reported (4) were of infants who had acute respiratory disease.[10] Some airlines have reported a higher incidence of ear trouble in infants, but the anatomy indicates there should be less. The nursing infant should be given bottle or breast during descent in order to keep the eustachian tubes open by the swallowing movements. There are no contraindications to flight based on age alone.

Burns.—Recent experience indicates that even patients with extensive burns involving nearly 100 per cent of the body surface may be safely transported by air in the first 24 to 36 hours after the burn. The burn is unique in that it is one of the few injuries in which the early transportation not only will do no harm but is mandatory for safety of the patient.[11]

SUMMARY

Larger numbers of the patient population are utilizing air transportation in either airliners or air ambulances. The job of the general practitioner thus requires that he be familiar with the problems of such transportation.

The patient problems encountered result from a few basic differences from other modes of travel, namely, decrease in total atmospheric pressure, decrease in the partial pressure of oxygen, reduction in ambient air temperature, and the presence of apprehension and turbulence. Some of these differences are minimized by the use of a pressurized cabin.

Patient selection on the airlines is done only by the ticket agent in most cases in contrast to the rather elaborate military patient selection procedures. Specific problems are discussed involving cardiac cases, pulmonary cases, anemias, eye cases, gastrointestinal surgery cases, pneumothorax, neurosurgical cases, pregnancy, fractures of the mandible, neuropsychiatric cases, communicable disease, infants and the aged, and burns.

In general, any patient who is transportable can be flown safely if adequate provisions are made for his care.

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Diagnosis of Intraocular Neoplasms Using Radioactive Phosphorus

Clinical and Pathological Aspects

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OCCASIONALLY uncertainty exists in differential diagnosis between retinal detachment and malignant neoplasm of the posterior ocular segment. Consultants in a case may disagree whether to attempt a retinal reattachment operation, watch the lesion for signs of progression, or remove the eye surgically for fear the indeterminate lesion might be a malignant neoplasm. Eyes have been enucleated because of the wrong decision with regard to a lesion of the fundus which could not be diagnosed clinically.

Watchful waiting has resulted in failure to give a chance of cure in instances of malignant neoplasms not diagnosed early enough for enucleation of the eye.

However, to attempt to reattach the retina by operative methods means the possibility of opening into a bed of tumor tissue if the retinal detachment is due to an enlarging mass of neoplasm, rather than the hoped for lake of subretinal fluid present in instances of simple detachment.

Dr. Herbert C. Allen and his coauthors are with the Radioisotope Departments of the Methodist and Hermann Hospitals, and the Departments of Ophthalmology and Pathology, Baylor University College of Medicine, Houston. Information in this paper was presented before the Section on Clinical Pathology, Texas Medical Association, April 29, 1957, and the Texas Ophthalmological Association, April 30, 1957, in Dallas.

Radioactive phosphorus has been used to localize tumors of the eye. This paper reports 25 cases in which P^{32} was used. Increased concentration of the isotope occurred in malignant tumors, whereas benign conditions did not result in greater concentration of P^{32}. By this method, radioactive studies of the posterior segment of the eye can be done as effectively as anterior segment studies.

Further to complicate matters, a considerable quantity of subretinal fluid often accompanies a malignant tumor of the choroid, making it impossible to see the edges of the neoplasm with the ophthalmoscope, even though the tumor lies just behind the thin, transparent retina.

Clinical transillumination of the eye also often fails to outline a tumor shadow in the choroid.

Clinical diagnosis of malignancy is also uncertain for tumors of the iris and ciliary body.

For these reasons the clinical use of radioisotopes in intraocular tumor detection has been anticipated and attempted.

HISTORY

The use of radioactive materials as aids in the diagnosis, localization, and treatment has increased greatly since their introduction to medicine.

In 1941, Erf and Lawrence[7] gave radioactive sodium phosphate orally to a group of patients in terminal stages of cancer. At autopsy they were able to demonstrate that the tissues of neuroblastoma, seminoma, melanoma, Ewing's tumor, Hodgkin's disease, lymphosarcoma, and fibrosarcoma all contained more

radioactivity than most of the other tissues of the body.

In that same year Kenney, Marinelli, and Woodard[9] determined the concentrations of radioactive phosphorus (P^{32}) in cases of carcinoma of the breast, osteogenic sarcoma, and lymphosarcoma by analyzing surgical specimens from patients that had received the isotope prior to operation. In all of these cancers the concentrations were higher in the tumor tissue proper than in the surrounding normal tissues. In the case of lymphosarcoma the radioactivity was so great that it seemed P^{32} should be useful as a therapeutic agent, as well as a diagnostic agent.

The next year Marinelli and Goldschmidt[13] studied the concentrations of P^{32} in some superficial tissues of living patients. Their investigation of its concentration was confined to the body surface. By passing the Geiger-Müller tube over normal skin near osseous as well as nonosseous regions and over some malignant tumors of the skin (namely, malignant melanoma and mycosis fungoides) it was found that higher radiation concentration was achieved over surface areas close to bone as compared to skin overlying soft tissue areas. This was interpreted as being due to different uptakes by different tissues, specifically a greater uptake of P^{32} in muscle and bone, than in skin and subcutaneous fat. With respect to the malignant tumors of skin that were studied it was demonstrated that these lesions contained much greater quantities of radioactive phosphorus than the surrounding normal skin, although elimination rates were higher from the tumors than from the normal skin. Even the degree of malignancy seemed to be indicated by the quantitative uptake of P^{32} by the neoplastic tissue, that is, the greater the concentration of P^{32} the higher the degree of malignancy of the neoplasm.

In 1946, Low-Beer, Bell, McCorkle, and Stone[12] investigated the concentration of intravenously administered radioactive disodium hydrogen phosphate in breast tumors. A dose of 300-500 microcuries was given, and radioactivity determinations were made from the skin overlying the tumors. These determinations were made at 2, 4, 6, and 24 hour intervals using a Geiger-Müller counter.

Readings at skin areas overlying subsequently proven malignant tumors were 25 per cent higher than the radioactive emissions from surrounding skin areas, whereas the increased radioactivity was less than 25 per cent in skin overlying subsequently determined benign tumors.* It was postulated that the increased uptake is due to a higher rate of metabolism of cancer cells as compared with the cells of surrounding normal tissues; thus malignant cells assimilate more elements, including radioactive phosphorus.

In 1949, Selverstone, Solomon, Sweet, and Robinson[16, 17] presented their findings in the clinical location of brain tumors by the use of P^{32} at the time of surgery. In 33 cases of suspected brain tumors, positive identification and localization of the tumor was obtained in 29 cases. In 1 case of diffuse gliomatosis the method was of no value. In 2 cases failure was attributed to improper technique, and in 1 case the absence of positive results was attributed to the absence of tumor, as was borne out by the patient's subsequent clinical course. They found that the radioactivity of brain tumors was from 6 to 110 times greater than the radioactivity of surrounding brain tissue. The maximum concentration found within brain tumor tissue was 2 to 3 days after intravenous injection of the radioactive phosphorus. A modified Geiger counter 3 mm. in diameter was used as a probe during surgical operation. Control concentrations of radioactive phosphorus were obtained by probing into unaffected areas of brain tissue. By probing into suspected areas of the brain the researchers were able to localize the brain tumors in the majority of cases by detecting significant increases in the counting rate of the Geiger counter. Satisfactory determinations usually could be obtained in less than a minute in each of the areas probed.

In 1952 and 1953, Thomas, Krohmer, Storaasli, and Friedell[19, 20, 21] applied the method of localization of tumor with radioactive phosphorus to the eye for the detection of intraocular neoplasms.

Eight cases of suspected intraocular tumors were studied by this method with successful results. Increased radioactivity was demonstrable over tumor-bearing areas of the eye as compared to surrounding normal ocular tissues. This increased radioactivity was present ½ hour after intravenous injection of P^{32} and it persisted as late as 24 hours after injection.

Possible reasons for the increased radioactivity are (1) increased phosphorus concentration in tumor tissue due to a more rapid nucleic acid turnover in fast growing tissue, (2) increased vascularity of the tumor, (3) increased phosphate ion concentration due to breakdown of blood-tissue barrier (similar to the blood-brain barrier breakdown).

In 1 case of probable metastatic carcinoma from the breast to the eye, the radioactivity in the eye was not significantly increased. In 2 cases in which no tumor was present there were no areas of increased radioactivity, the radioactivity of the eyes being uniformly distributed.

It was pointed out that beta radiation of P^{32} was superior to gamma radiation from other isotopes in that the latter, because of its long tissue penetrating ability, masks the higher concentrations in tumor tissue from other areas of the eye. The short penetrability of beta rays prevents such interference with the radioactivity of a given focus.

**A single case of mucinous carcinoma, in which there were relatively few tumor cells, gave a false negative result.*

Inasmuch as the majority of malignant intraocular tumors are melanomas of the uveal tract, beta ray detection is relatively easy with respect to picking it up through the thin outer sclerotic coat of the eye.

Radioactive phosphorus has a half life of 2 weeks, which is a favorable length of time with respect to scheduling of patients and handling the radioactive material.

In 1954, Dunphy, Dreisler, Cadigan, and Sweet[4] studied and charted the radioactivity of the different quadrants of the eye after enucleation in 12 cases of suspected intraocular neoplasm. Pathologic examinations of these eyes revealed the presence of malignant melanomas of the choroid in 5, retinoblastomas in 2, a malignant melanoma of the iris and ciliary body in 1, a benign cyst of the iris in 1, absolute glaucoma with no tumor in 1, Sturge-Weber syndrome with a small hemangioma of the choroid in 1, and a case of simple retinal detachment in 1. Correlation between the radioactivity through the sclera in the various quadrants of the eye and the pathologic findings were so good that the investigators were able to predict the presence of malignancy in every one of the enucleated specimens prior to their being opened by the pathologist. Abnormal localizing radioactive concentrations were not present in any of the benign lesions.

In 1956, Terner, Leopold, and Eisenberg[18] reviewed the literature and analyzed the results in 262 cases of ocular and adnexal radioactivity using P^{32}. They concluded that P^{32} uptake studies were valuable in the differential diagnosis of intraocular lesions "especially in the differentiation of serous and solid detachments of the retina, provided that the lesion is within reach of the counter tube." Thus it did not seem possible to diagnose benign versus malignant lesions of the posterior pole of the eye by radioactive counting because of the difficulty encountered in correctly positioning the counter tube over the posterior pole of the patient's eye.

Early in 1957, Kronfeld[10] commented on the poor correlation between uptake counts and pathologic findings in lesions of the posterior segment of the eye with counting devices available thus far. In his opinion, however, the method is an important addition to the ophthalmologist's diagnostic armamentarium in anterior segment lesions suspected of malignancy. Clinically, anterior segment lesions are just as difficult to diagnose as lesions of the posterior segment with respect to the question of malignancy.

CASE REPORTS

In the Methodist Hospital Radioisotope Department, a series of 25 cases, starting in May, 1955, has been studied using radioactive phosphorus as an aid in the diagnosis of intraocular neoplasms. The techniques of Thomas and associates and Eisenberg and his group were utilized. New anterior segment tubes and the new posterior segment Geiger-Müller curved Anton eye probe devised by Thomas, Krohmer, and Storaasli, were used in scanning pathologic and normal eyes. The posterior segment curved probe was used with no difficulty.

Of the 25 cases, 6 showed an increased concentration of P^{32} of more than 30 per cent and were reported as positive. Clinically, the diagnosis of malignant melanoma was made in 4 cases and possible malignancy was diagnosed in 2 cases. Four of these eyes reported to have "positive" malignancies were enucleated. Histopathologic sections at Baylor University College of Medicine, Ophthalmic Pathology Laboratory, confirmed the diagnosis of malignant melanoma of the choroid in 3 of the cases. Pathologic diagnosis of the fourth eye was hemangioma of the choroid. Only a 1 hour study was made on the posterior segment lesion of this eye. Three readings in the macular area were over the 30 per cent mark, indicating an increase in concentration of P^{32}.

In the other 2 "positive" cases, the patients refused enucleation. One had clinical evidence of a metastatic lesion in the brain and died 2 months after the study. Permission for autopsy was not granted. Whether the suspected tumor in the eye was primary or metastatic is not known. The other patient whose diagnosis was "positive" had only 1 eye and refused enucleation of his remaining eye in spite of the suspected neoplasm present. It was necessary to use a modified technique in which the quadrant with the lowest count was used as a reference area. Counts in the upper nasal and 3 o'clock areas of the lesion were well over the 30 per cent mark.

Two patients who were referred with a clinical diagnosis of possible melanoma were asked to return for further study. One had very low counts, suggesting a cyst. The patient did not return, and there was no subsequent follow-up. The other patient was asked to return because at the time of the initial study the mica window of the posterior segment probe was broken and an accurate study could not be done. The anterior segment showed 1 high quadrant and 3 low quadrants. Return studies showed no increase in concentration of radioactive phosphorus. Follow-up clinical examinations showed no change in the eye lesion.

Of the remaining patients who showed no increase in concentration of radioactive phosphorus, 4 were referred with a clinical diagnosis of pigmented lesion of the iris, possibly malignant. The uptake studies showed no increase in concentration, and the cases were reported as negative. One of these was restudied because the clinician strongly suspected a malignancy, but follow-up visits showed no change in the lesion. In the fifth case in this group of lesions of the iris, the clinical diagnosis indicated that a malignancy was present. The lesion was excised in spite of negative uptake study findings. Poor technique in preserving and handling the tissue made the histopathologic diagnosis difficult. However, the report from the Department of Pathology was that the tissue did not appear neoplastic. One cyst of the iris did not indicate an increased concentration of P^{32}, and on clinical follow-up there was no change in the lesion.

In 1 case the clinical diagnosis was possible glioma of the optic nerve. The disk showed an elevation of 5 diopters. The P^{32} studies showed no increase in concentration. The patient is being followed by frequent eye examinations.

In 1 case of a very painful eye, the patient was treated alternately for glaucoma and iritis. When the cornea cleared, a retinal detachment was found. The patient was referred for uptake studies. Concentration of P^{32} was high in all quadrants of the eye. The diagnosis was that of an inflammatory lesion. The eye was enucleated because the pain was intense. The histopathologic report was septic choroiditis.

In 1 case, the patient had a retinal detachment in a poorly transilluminating quadrant; the clinical diagnosis was

malignancy, and enucleation was recommended. The patient was referred for radioisotope examination and the P^{32} studies showed no increase of concentration. The eye was enucleated and the pathologic report was simple retinal detachment without tumor.

One patient with poor vision in 1 eye for a year was totally blind in this eye when he awoke from surgery for a partial gastrectomy. Clinical examination revealed a totally detached retina. The patient was referred to rule out a malignancy. The radioactivity uptake studies showed no increase in concentration. The patient was seen periodically with no change in the eye condition. A second uptake study done 2 months later also was negative.

Another case was that of a boy with a small black mass visible on the iris. He was referred with a diagnosis of a cyst, or possibly malignant melanoma. There was no increase in concentration of radioactive phosphorus. Frequent examination revealed no change in the lesion. However, the lesion subsequently was excised and the pathology report substantiated the clinical diagnosis and the P^{32} study that a neoplasm did not exist.

One patient was referred for the uptake study with a clinical diagnosis of an ulcerated neoplasm of the lacrimal sac. The study indicated a low grade neoplasm. The last clinical follow-up showed that the patient had had radiation therapy for a basal cell carcinoma and is doing well. This patient's case is not included as a positive one in this report as it is of extraocular origin.

In 2 cases in which black masses were noted anterior to the equator the radioactive phosphorus study did not indicate malignancy. No follow-up was available in either case.

There was no increase in isotope concentration in a patient with a macular lesion who was referred for the study. Follow-up study reveals that the elevated dark macular area is subsiding, and it is believed that the lesion eventually will appear as a typical macular degeneration.

The remaining cases were those of retinal separations that were referred for studies as possible malignancies, and these were not indicated as such by the uptakes. In those cases in which clinical follow-up is available, 1 patient had retinal detachment surgery and another patient refused retinal detachment surgery with subsequent worsening of vision.

DISCUSSION

The method, when used for the posterior ocular segments, is one of utilizing radioactive determinations to differentiate fluid detachments of the retina from detachments due to malignant tumors. Utilization of this method is especially important when transillumination of the eye is unsatisfactory and when retinal holes are not present clinically to indicate the probable non-neoplastic etiology of the detachment.

By using careful technique, radioactivity of the posterior segment of the eye can be studied adequately, as is now the case with lesions of the anterior part of the globe. Although there was 1 instance of a false positive test in a lesion of the posterior pole of the choroid, its site was accurately located on the 1 hour study. This lesion was a simple hemangioma of the choroid, and had a second 24 hour uptake study been performed, or had the initial uptake study been performed 24 hours after the injection of the radioactive salt, the radioactivity of the posterior pole probably would have been dissipated, inasmuch as no malignant tissue was there to retain the isotope. The high radioactivity of the posterior pole was due to the high degree of vascularity of this hemangioma of the choroid. This radioactive concentration would have been lost after 24 hours (P^{32} concentrations in the blood disappear before that length of time). On the other hand if the lesion had been malignant, radioactivity from the neoplastic cells would have remained high at the end of 24 hours.

In 1 reported series of 6 cases of retinoblastoma there were 5 false negative tests.[18] The reasons for the general success of the method in malignant melanomas of the uveal tract and the generally poor results reported in cases of retinoblastoma are not apparent. Possibly the often massive necrosis and decreased vascularity, plus the greater distance of these more centrally located tumors from the outer surface of the eye, account for the poor diagnostic results with this method.

It should be pointed out that the radioactivity dose of 500 microcuries of this test is less than some diagnostic x-ray procedures in use at this time.

SUMMARY

Because of the close similarity, embryologically and histologically, between the central nervous system and the eye, it was postulated[19] that the work on radioactive phosphorus localization of brain tumors might be applied successfully to tumors of the eye.

In our series, 25 cases were studied with radioactive phosphorus. Six cases showed an increased concentration of P^{32}. Four eyes were enucleated. Three of the 4 were supported in the diagnosis of malignant tumor by histopathologic section. The tissue diagnosis of the fourth eye was hemangioma of the choroid. A 24 hour study probably would have shown a decrease in radioactivity, indicating a vascular or inflammatory lesion. In the 19 cases not showing an increase in concentration compatible with a malignant tumor, 2 eyes were enucleated. One was clinically diagnosed as a malignancy. Radioactive phosphorus studies failed to support the diagnosis, and the pathology report confirmed the radioisotope interpretation. In the other case the eye was enucleated because the pain was intense. The pathology report confirmed the P^{32} study of an inflammatory lesion. Lesions of the iris were surgically excised in 2 cases after the study did not indicate an increase in concentration. Histologic examination of the tissue in 1 eye confirmed the clinical diagnosis of a cyst and supported the radioisotope examination. The other case was clinically diagnosed as a malignant

melanoma. The tissue report, however, was negative for malignancy.

It appears that radioactive studies of the posterior segment of the eye can be done as effectively as anterior segment studies.

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Decreased Vision From Pterygium And Suggestions For Treatment

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THE LITERATURE on pterygiums literally begins in ancient history. Yet most of it is concerned only with treatment. A recent extensive review on the pterygium[4] traces comments on the disease from 1000 B. C. to the present time and notes that the condition goes merrily on its way in spite of all these centuries of recorded study. There are some writings on the etiology, but a truly definitive exposition and scientific study of the cause of this lesion has not yet been made. Because there are only a few scattered case reports dealing with the seriousness of this condition as a cause of decreased vision and blindness

Dr. J. L. Mims, Jr., a San Antonio ophthalmologist, presented this paper before the Texas Society of Ophthalmology and Otolaryngology in Dallas on December 7, 1956.

Pterygium is a fairly common condition that may be a serious threat to vision. Twelve cases are presented, together with a method of treatment using surgery and beta irradiation. Classification of pterygium into active and inactive is made, with comments as to possible etiology.

and because there seems to be a doubt in the minds of many physicians, especially in certain geographic areas, as to how often a pterygium can become serious, a report on a series of patients who had been totally or partially blinded by pterygiums seems worth while. In addition, I would like to present some conjecture about the cause and some suggestions for treating pterygiums. The past several years have seen some important advances in the surgical treatment and postoperative care of patients who have pterygiums.

CASES

A summary of 12 cases in which pterygium totally or partially blinded the patient is presented in table 1.

CLASSIFICATION AND ETIOLOGY

Friedenwald and others[2] classified the pterygium under the degenerations of the cornea. They stated: Pterygium is the most frequent of the peripheral degenerations of the cornea. The earliest changes are the develop-

TABLE 1.—*Cases in Which Vision Has Been Decreased by Pterygium.*

Patient	Sex	Age (Yr.)	Vision Without Glasses RE	Vision Without Glasses LE	Vision With Glasses RE	Vision With Glasses LE	Diagnosis	Remarks
1	M	60	20/400	20/70	20/100	20/25	Pterygiumectomy scar, RE, reducing vision; pterygium, LE, small.	RE operated on 1930, 1949. X-ray 1949. High astigmatism, RE, residual of pterygium. Will not tolerate full correction.
2	M	45	20/400	20/20	Same		Scar, R cornea after recurrent pterygium removal. Small active pterygium, LE.	Distortion of retinoscopic reflex in RE.
3	M	Elderly	20/200	20/25	Same		Bilateral pterygiums.	Never had surgery.
4	M	60	6/200	20/200	6/200	20/60	Pterygium, RE. Early nuclear sclerosis cataracts, worse in LE.	Never had surgery. Decreased vision in RE primarily from pterygium.
5	M	50+	20/80	20/100	20/40	20/30	Pterygiumectomy scar, RE. Pterygium, LE.	Irregular corneal astigmatism by retinoscopy, both eyes.
6	M	30	20/80	20/20	20/40	20/20	Medial and lateral pterygiums, RE. Medial pterygium, LE.	Retinoscopic reflex irregular in central area of R cornea from distortion caused by head of pterygium.
7	M	60	20/200	20/200	20/100	20/50	Medial and lateral pterygiums, RE. Post-pterygiumectomy scar, L cornea.	High astigmatism, haze of media centrally, RE. Pterygiums recurrent, RE; nonrecurrent, LE.
8	F	67	20/400	20/400	Same		Massive pterygium over most of R cornea; immature nuclear sclerosis type cataracts, both eyes, worse in LE.	Lived in sandy country most of life. Largest specimen seen.
9	M	28	20/200	20/20	Same		(VA quote) Pterygium, LE, moderate, treated, improved. Residuals of old pterygium, RE.	Recurrent 5 times, RE. Mucous membrane graft last time.
10	F	64	20/200	20/200	20/40-41	20/25	Residuals of pterygium, RE.	Surgeon who operated in 1940 gives best vision 20/25 O.U. Now shows advancement of head to visual area by slit lamp, without apparent recurrence of base.
11	M	68	20/200	3/200	Same		Large pterygium, RE. Brown cataract, LE.	Following surgery for pterygium, RE, best vision 20/60. Cataract extraction, LE (no pterygium), resulted in 20/30 best vision.
12	M	54	1/200	20/50	1/200	20/40	Very large active pterygium, class 1, RE. High hyperopia, bilateral.	Patient was told 16 yr. before that surgery would never be necessary in this lesion. Has small early pterygium on LE. Resection of pterygium, RE, makes best vision 20/80. Mild, simple, noncongestive, wide angle glaucoma bilaterally.

ment of cracks in Bowman's membrane, apparently at points where nerves pass through. In these areas Bowman's membrane and the underlying corneal lamellae become fragmented and degenerated. Vascular connective tissue then grows in from the limbus beneath the epithelium sending strands into the superficial stroma. The mature pterygium is covered by conjunctival rather than corneal epithelium. The stroma consists of dense connective tissue composed of numerous elastic fibers, thickened collagen fibers, and a considerable amount of hyaline material.

In my experience, the slit lamp microscope has revealed the "cap" or "head" of the most active and progressive form of this lesion to be covered by corneal epithelium, not conjunctival epithelium. It is probable that conjunctival epithelium does not cover the area until blood vessels and, along with them, a large number of fibroblasts invade the cornea. It certainly is not the degeneration of Bowman's membrane alone that prevents corneal epithelium from covering the area. If that were the case, all pterygiums would be recurrent, and lamellar keratectomy would not be a feasible procedure. Certainly, many pterygiums have an appearance of being "drawn" into the cornea. Some active proliferative process, as well as a degenerative process, certainly must be at work. If a pterygium was purely an uncomplicated degenerative process, recurrence would be no problem. How then may the proliferative processes of this disease be explained?

My own conjecture on the etiology of this lesion depends first on classifying the lesion. I believe that the appearance of the base is not a sound basis for classification, but that the appearance of the head or cap is more significant. I would like to propose the following classification:

If the cap is thick, almost translucent, has grayish pseudopods, and has gray dots ahead of the pseudopods, the lesion is an active, true pterygium, which I call type 1. If the lesion has no pseudopods, no area of raised translucent head or cap, and no gray dots, either the lesion is a pseudopterygium from previous corneal injury or the active degenerative process which generates the proliferative phase of the disease has stopped. This I call the inactive type or type 2. Many "recurrent" pterygiums will appear like this inactive form. It should be noted that many of this second type have microscopic amber or brownish opaque dots which border the edge of the lesion. These are smaller than the gray dots of the active form. There is often a vertical brown line in the corneal stroma centrally or ahead of either type of pterygium, but especially the inactive type.

I do not mean that all lesions like the second, or inactive type, will not eventually invade the central area of the cornea and decrease vision. I believe they simply are the way the outer layers of the cornea scar if necrosis occurs from mechanical or chemotoxic influences. Especially is this the case if necrosis is slow and the process chronic. If the cause of this type of lesion occurs again or periodically, then type 2 progressively will invade the cornea. It also is probable that a few lesions of this type occur where the tissue insulting process is of the mildest sort. Certainly, however, this second type of lesion usually is not progressive in an otherwise normal eye, at least not at a rapid rate.

If my conjecture is right, then a type 1 pterygium begins as the pathologists describe—as a degenerative process in small areas where Bowman's membrane and a few underlying lamellae become fragmented and degenerated. Then the typical response to slow necrosis of tissue anywhere in the body occurs. Vascular connective tissue proliferates into the area under the chemotactic influence of the products of the slowly progressive necrosis. The raised, yet translucent, appearance of the head probably is due to edema, both extracellular and intracellular, of the corneal lamellae which are not completely or abruptly destroyed in the process. This, too, is not a situation uncommon to the rest of the body. As vascular tissue invades the cornea, the corneal epithelium is not capable of remaining intact or well implanted, and gradually it is replaced by conjunctival type tissue. The fibroblasts which proliferate into the area of active degeneration as part of the invading fibroblastic tissue become adult and contract, thus actually mechanically drawing or pulling on the conjunctiva peripheral to the head of the lesion.

If all this is so, our problem in treating this lesion would seem to be the prevention of the initial degenerative process. Furthermore, this hypothesis allows for numerous etiologies of pterygium. Where it is purely inflammatory, or due to drying and exposure to irritation from abrasive dust particles, or possibly actinic rays of the sun, we often can do much to help the patient. Most physicians have seen pterygiums which remained inactive if the conjunctiva was kept free of inflammation.

TREATMENT

It is now a common observation that if all the affected tissue (in other words, all the head of the pterygium including a lamellar resection of the area with the gray dots) is completely and smoothly removed, and if an area of smooth bare sclera is left adjacent to the area of cornea operated upon, the disease usually does not recur. This must seem, then, to be due to the removal of something in the tissue itself producing the lesion, as is the case in any tumor. Perhaps we eventually may be forced to classify pterygium as a true tumor, or as an inflammatory disease due to some infecting agent living in the tissue itself.

It also is possible, however, that the surgery sim-

ply excises the area in which some external agent started this degenerative process and that this process, once begun, is self-perpetuating for some reason eventually explainable in terms of tissue chemistry. It certainly seems to be self-perpetuating if new fibrovascular tissue does reinvade the portion of the cornea operated upon. In other words, surgery gives the tissue a chance "to break the cycle." Interestingly enough, the next obvious thought is that if we could prevent the ingrowth of the vascular tissue, the lesion would not recur because the self-perpetuating tissue chemical process would not be reestablished. That is exactly what is now done with beta irradiation of the operated site.

At the time this paper was written I had removed in the previous 4 years 42 pterygiums using a lamellar resection (beginning resection slightly in front of the lesion, if possible), combined with a bare sclera technique and followed in 3 to 4 days with beta irradiation with a strontium-90 applicator.[1] The radiation was repeated in 2 weeks. An ointment containing hydrocortisone and one containing an antibiotic were instilled postoperatively. There have been no recurrences to date among those on whom I used irradiation. The last patient in this series was operated upon 2 years ago. The dose has been 2,000 rep, in 2 doses 2 weeks apart. In the several years prior to that time, my recurrence rate must have been close to 50 per cent in treating the active type. (Type 2 pterygium seldom recurs and, for that matter, often does not need removing.) I now use gut sutures in a technique such as Hughes[3] describes, modifying it to bare an area of sclera 2 to 3 mm. wide (fig. 1). I try never to forget just how close I am to the insertion of the medial rectus when working on medial pterygiums. The gut sutures, if anything, seem less irritating than silk ones. At least their use reassures the patient and makes no difference in the outcome. Certainly the postoperative use of hydrocortisone locally is a big help.

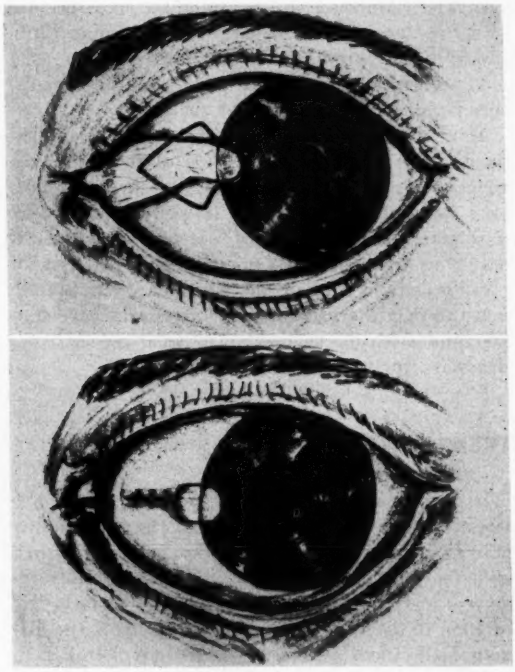

Fig. 1. Above, the line of incision for pterygium surgery is shown by the heavy black line. The deliberate radial direction for a short distance out from the limbus prevents the conjunctival edge from being drawn against the limbus when the incision is closed. Below, the closure leaves a bare area. The thickened Tenon's capsule also is excised. Care should be taken to avoid damaging the tendon and capsule of the medial rectus muscle.

CONCLUSION

It is hoped that the cases presented here have illustrated what a serious threat to vision a pterygium really is. It is also hoped that the theorizing about the processes involved in the development of a pterygium will be of assistance to someone in reaching an eventual understanding of this disease. At the present time, lamellar resection from the cornea, complete excision of the head and a portion of the episcleral tissue adjacent, leaving a strip of sclera bare at the time of surgery, and postoperative irradiation from a pure beta ray source appear to be the treatment of choice of the pterygium requiring removal. The proximity of the insertion of the medial rectus muscle never should be forgotten when operating on a medially located pterygium, and the thickness of the cornea always should be borne in mind throughout the operation.

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Leonardo da Vinci recorded a theory of contact lenses as early as 1508, and René Descartes, the French mathematician, experimented with them in 1637.

Roger Bacon first suggested the use of convex lenses in the thirteenth century, and Benjamin Franklin invented bifocal spectacles in 1784.

Mental Retardation

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MOST PHYSICIANS are at one time or another faced with the problem of having to advise parents as to what is best to do in the case of a child who is mentally retarded.

Mental retardation in itself is not considered a cause for placing a person in a state residential facility. It is believed that approximately 80 per cent of the mentally retarded remain in the community throughout their life. Placement is usually made on the basis of mental retardation plus other factors making placement necessary for the benefit of the child, the family, or the community. These factors include the health of the mother or father, the effect of the retarded child on other children in the home, dependency, breakup of the home, trends toward delinquency, and lack of educational or training opportunities in the home community.

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Mentally retarded children may be placed in one of the four state institutions for that purpose when it is necessary for the welfare of the child, family, or community. Since the schools are overcrowded, parents of these children must evaluate thoroughly the situation and institutions before admitting the child. Most of the mentally retarded can remain in the community throughout their lives.

The Board for Texas State Hospitals and Special Schools operates the following four institutions for the care, control, supervision, treatment, education, and training of mentally retarded Texas citizens:

The Abilene State School, Abilene, serves as a diagnostic and admission facility for all counties of West Texas commencing with the east boundaries of Wichita, Archer, Young, Stephen, Callahan, Coleman, Concho, Schleicher, Sutton, and Val Verde Counties.

The Austin State School, Austin, serves as a diagnostic and admission facility for the remainder of the state and is the only institution admitting children less than 6 years of age.

The Austin State School Farm Colony, Austin, is limited to older, severely retarded males transferred from the Austin State School.

The Mexia State School, Mexia, accepts both male and female transfers from the Austin State School.

Admissions of mentally retarded persons are made upon (1) application to the superintendent of the appropriate admitting facility, (2) adequate diagnostic information supplied by local clinics or acquired at the school's diagnostic center by medical and psychological examination, (3) certification of applicant's eligibility by the admitting institution, and (4) commitment by the county judge.

STATE SCHOOLS ARE OVERCROWDED

When these steps are completed, the applicant's name is placed on the waiting list until space is available for his admission. For many years the state schools for the mentally retarded have been extremely overcrowded and have maintained long waiting lists. Admissions are made in the order of applications received, with the exception of extreme emergency or hardship cases. Preference may be given to the completely helpless persons requiring complete care and who are jeopardizing the health of the mother and the security of the home. The two admitting institutions receive approximately 75 applications monthly.

Those eligible include any Texas citizen, other than a mentally ill person, so mentally deficient from any cause as to require special training, education, supervision, treatment, care, or control for his own or the community's welfare. The financial status of the family does not affect eligibility. Parents who are able to pay are required to do so up to the maximum amount established by the Board, which in no case exceeds the actual per capita cost of operating the institution. Mentally retarded persons of all ages and all physical conditions are accepted. Only a limited number of children less than 6 years of age can be admitted. The Board requires that infants who are admitted must be so severely involved that they cannot benefit from a home environment.

Statutes and Board policies require that each applicant have a thorough medical and psychological examination to determine that the person is actually mentally retarded. This requirement is an attempt to eliminate the emotionally disturbed, the environmentally deprived, and others who might for some reason be temporarily functioning in a mentally retarded range.

When the parents consider placing their child in a state institution, the emotions are deeply involved. Some relief from the unwanted sense of guilt and from anxiety about the child's care may be found by making a thoughtful study of the needs of both the child and the family.

PARENTS EVALUATE SITUATION

The three basic considerations should be the welfare of the retarded child, family and community. If it is found that the best interest of the mentally retarded child and the family can be served by institutional placement, it is recommended that the parents visit the appropriate institution, discuss admission procedures with the administration, and see for themselves the services available for their child. It is believed that they owe this to the child, to themselves, and to the institution. If the best interest of the child and the family can be served by the child's staying at home, then the resources for his education and training on a community level should be explored. In either case, it is recommended that the parents affiliate themselves with the organization for parents of mentally retarded children, the Texas Association for Retarded Children. If the family is financially able, the parents may place their child in a private school. These institutions in Texas are licensed by the Child Welfare Division of the State Department of Public Welfare, and a list of the schools may be acquired by writing to this agency.

Only one general conclusion can be drawn. If the home life cannot be maintained at a level that provides for normal satisfaction and growth for each member of the family, it is usually advisable to place a retarded child in a residential school. No blame or feeling of guilt should be attached to such a decision. The child himself may be happier in a different environment. Often it is not possible to make an admission for many months due to the long waiting list and the small turnover in the state insitutions. Therefore, it is strongly advised that parents do not wait until an emergency situation is present before making plans for placement.

The modern state school usually is better than popularly is supposed. In some ways it offers more than the average home can give to a mentally retarded child. Medical and nursing service provides for illness, and specialized training and education are designed to develop whatever capacity the child possesses. There is a planned recreational program. The child has plenty of companions with the same handicap which encourages socialization. He does not have to compete with brighter children. The regularity of daily procedure stabilizes good habits. What benefits the child gains depends not only on the institution but on the child. All institutions have their limitations. The care is kindly but there is less love and individual attention than in the home. Few general rules can be made as to the type of child who should be sent to an institution. Each case must be studied on an individual basis and may need reconsideration from time to time. No solution is entirely satisfactory to all concerned.

WHO IS MENTALLY RETARDED?

The term "mental retardation" is used with many meanings. It does not describe a disease like tuberculosis; it describes a condition. It is a general term describing all levels of retarded mental development and has replaced terms such as feeble-mindedness, idiocy, imbecility, and moronity. It tells us that a child is slow developing mentally but does not tell us how slow. It may mean one who does not make normal progress in school but makes some progress and is able to get along in the world with little or no special help. Another child referred to as mentally retarded may be helpless all his life.

Often we read or hear a statement made by a respected person that 75 per cent of all mentally retarded persons can be trained to become independent and self-supporting citizens. Such statements are sometimes misleading and confusing to parents of a severely retarded child and lead to difficulty for the professional person who is trying to counsel with parents of the mentally retarded child.

Two guiding principles of the Joint Expert Committee on the Physically Handicapped Child of the World Health Organization of the United Nations seem applicable to the mentally retarded child. They are that (1) every child has a right to expect the greatest possible protection against the occurrence of physical or mental handicaps before, during, and after birth, and (2) every child has the right to develop his potentialities to the maximum. This implies that all children, irrespective of whether or not they suffer from mental or physical handicap, should have ready access to the best medical diagnosis and treatment, therapeutic services, education, vocational training, and possibility for employment. They should be afforded an opportunity to develop whatever capacities they possess, satisfy the needs of their own personalities, and insofar as possible become useful and independent members of their environment.

LEGISLATIVE HELP

In recent years the state of Texas has made progress toward meeting the needs mentioned as they relate to providing these opportunities for the mentally retarded. The several steps include:

(1) Provisions for special education classes for the mentally retarded in the public schools were made in an act which went into effect in 1947. In September, 1957, there were 621 approved teaching units in the public schools serving approximately 8,492 boys and girls. The Fifty-Fifth Legislature

amended this act, giving permission for public schools to have classes for the "trainable" child (I. Q. 25 to 50). Several of the larger school systems already provide classes for this group. The Fifty-Fifth Legislature also appropriated $50,000 to the Vocational and Rehabilitation Division of the Texas Education Agency to be used exclusively for the rehabilitation programs for the mentally retarded. This operation is now in its developmental stages.

(2) An act creating the Board for Texas State Hospitals and Special Schools by the Fifty-Second Legislature in 1949 and the Mentally Retarded Persons Act by the Fifty-Fourth Legislature in 1955 have caused special attention to be given to the mentally retarded who require institutional care. The bed capacity for institutionalized mentally retarded has been increased from 3,400 in 1949 to 6,500 in 1957. This increase includes the 1,650 beds at the Abilene State School, formerly the hospital for epileptics. The Fifty-Fifth Legislature authorized and appropriated $2,225,000 for the construction of a new state school for mentally retarded to be located in the Dallas-Fort Worth area. This facility should open in 1960. Under the provisions of the Mentally Retarded Persons Act, the Board for Texas State Hospitals and Special Schools has established and approved diagnostic facilities and research opportunities in the area for the mentally retarded.

(3) The organization of parents of mentally retarded children has greatly accelerated a movement to bring about a better life for this group. The Texas Association for Retarded Children, an affiliate of National Association for Retarded Children, has 39 chapters representing 3,000 parents. This organization is rapidly focusing attention on the major social and mental health problems for these retarded children.

(4) The development of numerous day care centers, sheltered workshops, and private residential facilities for the mentally retarded is increasing opportunities for this group of citizens.

♦ Mr. Vowell, Acting Executive Director, Board for Texas State Hospitals and Special Schools, Box 5, Capitol Station, Austin.

Doctors Spend More on Aides' Pay

Doctors are paying more money to office assistants than ever before, according to an article in the January issue of *Medical Economics*. This conclusion is based on a recent study of some 600 physicians' personnel practices. The typical physician in private practice spends almost $4,000 a year for full or part-time office help—50 per cent more than was spent in 1952. Some 40 per cent of all self-employed physicians had two or more non-M.D. assistants in 1956 in contrast to about 25 per cent in 1952, according to the study.

Modification of Cardiovascular Abnormalities By Whole Root Rauwolfia

Especially Hypertensive Angina

RALPH V. FORD, M.D., and J. B. ROCHELLE, III, M.D.

With Technical Assistance of

CAROL MARSH and ANN ALEXANDER

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THE beneficial effects in decreasing morbidity and mortality by effective treatment of hypertension have been well documented.[1] This treatment has consisted primarily of the judicious use of Rauwolfia and ganglionic blocking agents in most cases. It has been shown that, in a heterogeneous population of hypertensives, effective reduction of blood pressure can be obtained by the use of Rauwolfia alone in approximately one-third of these patients.[3] The remainder of the group require the addition of a more potent ganglionic blocking agent. The purpose of the present report is to document the beneficial effects achieved in modifying or correcting cardiovascular abnormalities, especially "hypertensive angina," in patients receiving Rauwolfia (whole root) alone.

Dr. Ralph V. Ford and his associates offer this contribution from the Departments of Medicine and Pharmacology, Baylor University College of Medicine, and the Veterans Administration Hospital.

Whole root Rauwolfia was used to treat 44 patients referred to the hypertensive unit of a Veterans Administration Hospital who, it was determined, could be treated effectively with this agent alone. Favorable results were noted especially in "hypertensive angina," probably because of the lowering of abnormally elevated blood pressure.

METHODS AND MATERIALS

The subjects of the present analysis are selected from those patients who were referred to the hypertensive unit of the Veterans Administration Hospital during the past 12 months, who, according to previously established criteria,[1] could be treated effectively (or optimally) with Rauwolfia alone. There were 44 patients in this category, 18 of whom were Negro and 26 white. The patients were all males and their average age was 53 years. The drug used was the whole root Rauwolfia.*

The average dose was 359 mg. per day (range 200-400 mg.), and the average duration of treatment was 9 months (range 9-12 months). Five of these patients were on maintenance digitalis therapy; 5 had received reserpine previously; 1 had received ganglionic blocking agents previously; and 2 were on maintenance oral diuretic therapy. The average blood pressure prior to treatment was 175/100 (recumbent) and 169/102 (upright). The upright mean blood pressure was 123 mm. of mercury. During the last 3 months of therapy, the average blood pressure was 153/90 (recumbent) and 146/91 (upright), with a mean blood pressure in the upright position of 109. The average pulse before treatment was 76 and after treatment was 72. The techniques of studying these patients have been described previously.[1]

TABLE 1.—*Responses Due to Rauwolfia (Whole Root) in Cardiovascular Abnormalities in 44 Patients.*

Abnormality	No. Exhibiting	% of Total	No. Improved
"Angina"	14	32	11
Congestive heart failure	7	16	6
Abnormal electrocardiogram*			
Normal	2	4	0
Grade I	8	18	1
Grade II	5	11	0
Grade III	12	27	3
Grade IV	17	39	4
Retinopathy†			
Normal	0	..	..
Grade I	17	39	0
Grade II	25	57	1
Grade III	2	4	2
Grade IV	0	..	..
Renal impairment‡			
None	8	18	0
Grade I	23	52	0
Grade II	10	23	1
Grade III	3	7	0
Hypertension§	44	100	
Significant reduction	15	34	
Normotensive effect	29	66	

*Electrocardiogram—Grade I: minimal t wave changes; grade II: left ventricular hypertrophy without strain; grade III: left ventricular hypertrophy with strain; grade IV: left ventricular hypertrophy with strain and eschemia.

†Keith-Wagener classification.

‡Renal impairment—Grade I: normal or occasional albuminuria; grade II: albuminuria and elevated blood area nitrogen; grade III: albuminuria, fixed specific gravity, and elevated blood urea nitrogen.

§A reduction of mean upright blood pressure of 20 mg. of mercury or more is considered a significant reduction of blood pressure.

*Raudixin (E. R. Squibb & Sons).

RESULTS

The results are depicted in table 1. Of especial interest are the results in "hypertensive angina." There were 14 patients complaining of "hypertensive angina" varying from mild to severe; 11 exhibited modification of this symptom; 3 showed definite improvement; and 8 were completely relieved. Congestive heart failure was improved significantly in 6 of 7 patients. The electrocardiogram, retinopathy, and renal impairment findings were altered infrequently. Blood pressure reduction was achieved with a high frequency (attributable to the nature of selection of these patients—see above).

It is to be noted that the frequency of these cardiovascular abnormalities is small in this group as compared to a heterogeneous hypertensive population by the very nature of their selection (see above).

DISCUSSION

The effectiveness of blood pressure reduction in improving circulation in vascular beds by the use of potent antihypertensive agents has been established.[3] Further analysis indicates that most of the credit is due to the use of potent ganglionic blocking agents combined with Rauwolfia. However, as our experience has increased, we have seen beneficial results due to reduction of blood pressure in even the milder cases of hypertension, namely, those requiring Rauwolfia alone. The beneficial effect of the alseroxylon fraction of Rauwolfia serpentina in the treatment of angina pectoris has been reported.[2] The present study is concerned with hypertensive patients who present the "anginal syndrome." It indicates that, in patients with mild hypertension who also have "hypertensive angina," approximately three-fourths may expect improvement in this symptom along with improvement in evidence of congestive heart failure and elevated blood pressure. The mechanism of this improvement is probably due simply to the reduction in cardiac work load following reduction in blood pressure.

CONCLUSIONS

The use of whole root Rauwolfia is an effective adjuvant to the therapeutic armamentarium in "hyper-

tensive angina." This effect is probably attributable simply to lowering an abnormally elevated blood pressure. Similar effects may be expected in the improvement of mild congestive heart failure and other cardiovascular abnormalities.

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Dietary and Pharmaceutical Approaches to Atherosclerosis

Special Reference to Beta-Sitosterol

ELMER E. COOPER, M.D.

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THERE is general agreement among students of atherosclerosis that the disease is due to lipid, cholesterol, and lipoprotein metabolic defect. Whereas increased serum cholesterol is often associated with atherosclerosis, increased beta-lipoproteins are invariably found. Gofman and co-workers[1] have identified, by the ultracentrifuge, the presence of large concentrations of certain specific lipoproteins in patients with manifest atherosclerosis. These same lipids also accumulate in the experimentally induced atherosclerotic animal. Infants, children, and animals that do not develop spontaneous atherosclerosis have either very low concentrations of these offending lipids or none.

Humans with metabolic diseases, that is, hypothyroidism, xanthomatosis, nephrosis, diabetes, and familial hypercholesterolemia, have above average accumulation of cholesterol, beta-lipoproteins, and especially the abnormal lipids of the Sf 12-400 groups. There is an associated increased incidence of atherosclerosis in these disorders.

In the experimental animal, atherosclerosis seems to be reversible.[2] Atherosclerosis is not an inevitable counterpart of aging. Therefore, any method of improving lipid patterns seems to be indicated, if not imperative.

DIETARY REGIMENS

When the Lord spoke to Moses, saying, "Ye shall eat no manner of fat, of ox, etc. . ." (Leviticus 7:23), perhaps the injunction was meant in part to prevent atherosclerosis. Keys[9] has reported that the Minnesotans, with a fat intake of 41 per cent of total calories, as compared to 8 per cent in the Bantus, have as a corollary a five-fold increased incidence of coronary disease. Strict low fat, low cholesterol diets have proven to be of some benefit in the improvement of lipid patterns. Reduction in cholesterol and beta-lipoproteins occurs and remains if patients adhere strictly to the diet.[3] Unfortunately, such dietary regimens are difficult to follow for prolonged periods because of unpalatability and monotony. If too strict, or unbalanced, there is the danger of deficiency of "essential" unsaturated fatty acids, that is, linoleic acid. The body cannot synthesize linoleic acid, which is necessary for cholesterol transport and utilization, and it is thought to function in the depression of liver cholesterol synthesis. One also must be cognizant of the possibilities of inadequate vitamin A, D, E, and K absorption.

Dr. Elmer E. Cooper is a San Antonio internist.

There still is much to be learned in the field of atherogenesis, but no longer is there the pessimism which once existed. There is no single treatment, but diet, estrogens, heparin, plant sterols, linoleic acid preparations, or other approaches may be helpful, singly or combined. The author reports a study of 25 patients treated with beta-sitosterol.

Even if all fat were eliminated from the diet, cholesterol synthesis continues in many tissues, especially the liver, from acetate radicals. Liver cholesterol synthesis is believed to be influenced by the amount of

cholesterol ingested. It is estimated that the human being can synthesize from 1,500 to 2,000 mg. of cholesterol daily, an amount in excess of the dietary intake.

In the average American home, fats supply 40 per cent of the total caloric intake. In the home of the glutton, fat consumption reaches 60 per cent. Ahrens[4] has recommended that this figure be pared down to 25 per cent. Unless we change, historians may report that Americans of the twentieth century "died off the fat of the land."

FATTY ACIDS

If cholesterol is a culprit in the diet and fat the accomplice, it now appears that the danger of this accomplice resides in whether or not he is "loaded"; that is, are his fatty acids "saturated"?

The esterification and absorption of cholesterol is dependent upon the qualitative composition of the accompanying fatty acids. Fatty acids with low concentration of unsaturated acids promote higher serum cholesterol, while the fats with larger concentration of unsaturated fatty acids result in lowered serum cholesterol.[5] Vegetable oils contain more of the unsaturated fatty acids than do animal fats and hydrogenated vegetable fats. Hydrogenated shortenings are cottonseed or soybean oil in which the double bonds are saturated.

Ahrens[6] found a linear correlation between degree of saturation of dietary fat and cholesterol levels. The highest cholesterol levels are found with butter and coconut oil; intermediate levels are found with palm oil, lard, cocoa butter, and olive oil; lowest levels are found with peanut, cottonseed, and corn oil. Ahrens described two new diets that effectively lowered serum lipid levels of outpatients. The first is total vegetarianism, in which all dairy products are omitted except for skimmed milk, washed cottage cheese, skimmed milk cheeses, and egg whites. The second diet consists of a very low fat diet (up to 25 Gm. daily), supplemented by an ounce or more of corn oil at least 3 times daily. The basic diet offers modest portions of lean meat, chicken, and fish each day.

Television and movies may be factors contributing to atherosclerosis, since the coatings of the omnipresent popcorn usually consist of highly saturated coconut oils.

Bronte-Stewart,[7] in his interesting interracial Capetown studies on different fat and oil intakes, presented some convincing evidence for the value of unsaturated vegetable and marine oils as compared to animal fats and hydrogenated vegetable fats. Animal fats such as butter, beef drippings, beef muscle, and eggs caused rise in serum cholesterol and beta-lipoprotein levels, whereas marine animal oils and vegetable oils depressed these levels.

Hardinge and Stare[8] have observed that vegetarians have lower serum cholesterol levels despite free intake of vegetable fats. Beveridge[3] showed a significant lowering of serum cholesterol in diets rich in corn oil as contrasted to diets containing equivalent quantities of butter, chicken fat, lard, or beef drippings.

EPIDEMIOLOGIC PATTERN

There is certain evidence of the value of large intake of unsaturated fatty acids (high iodine number acids) when one considers racial differences in the incidence of coronary disease in various peoples as related to their diets.

Despite the high intake of fat in Eskimos, the incidence of coronary disease is low. On analysis, it is found that their diet of seal, fish, and other marine animals consists of fat characterized by unsaturated fatty acids. Keys[9] noted that the major food of the Japanese, who have little atherosclerosis, is fish. The Latin people, with low coronary incidence, are olive oil eaters. In primitive communities such as Africa, China, Guatamala, and Okinawa, where atherosclero-

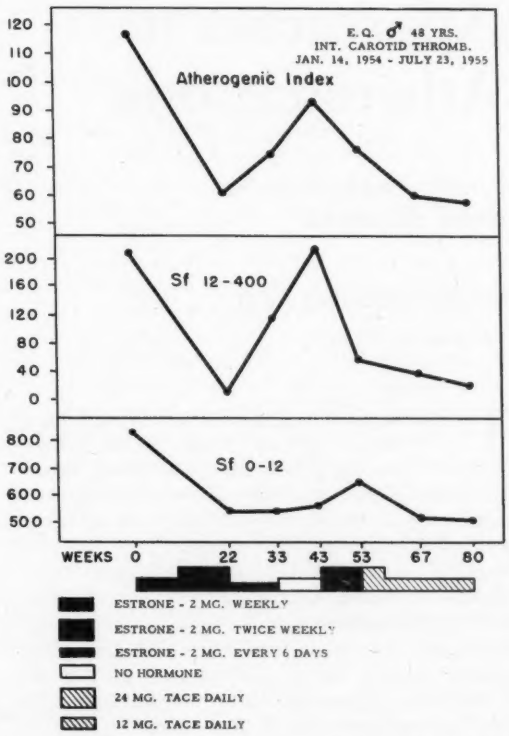

Fig. 1. The effect of estrogen on lipoproteins and the atherogenic index.

sis is infrequent and mild, maize, soybean, and sunflower seed are responsible for the high amount of unsaturated fatty acid in their diets. Hammond[10] has observed that fats make up less than 4 per cent of the total caloric intake of these natives.

In the Scandinavian countries during World War II, there was a marked reduction in the incidence of deaths due to coronary disease. Bronte-Stewart[7] suggested that this was primarily due to the bombing of hydrogenation plants, as well as to reduced fat intake.

HEPARIN AND POLYSACCHARIDES

Engelberg and others[11] have shown considerable success in the improvement of lipid patterns with the use of intermittent heparin therapy. In 100 patients with coronary disease who were given 200 mg. of heparin subcutaneously twice weekly over a 2 year study, the resultant death rate was one-fifth as great as in a comparable coronary series treated without heparin.

In human beings and in experimental animals, heparin effects conversion of lipid patterns from the higher flotation groups (Sf 12-400) to the lesser atherogenic macromolecules (Sf 0-12). Repeated injections into rabbits protects them from atherosclero-

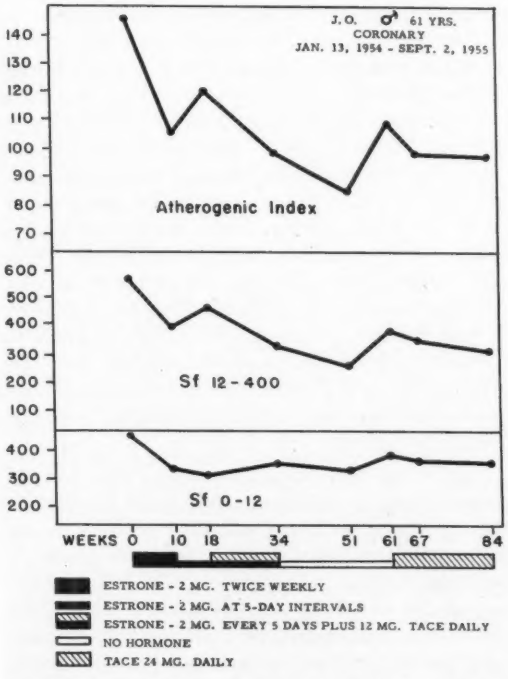
J. O. ♂ 61 YRS.
CORONARY
JAN. 13, 1954 - SEPT. 2, 1955
Atherogenic Index
Sf 12-400
Sf 0-12
WEEKS 0 10 18 34 51 61 67 84
ESTRONE - 2 MG. TWICE WEEKLY
ESTRONE - 2 MG. AT 5-DAY INTERVALS
ESTRONE - 2 MG. EVERY 5 DAYS PLUS 12 MG. TACE DAILY
NO HORMONE
TACE 24 MG. DAILY

Fig. 2. The effect of estrogen on lipoproteins and the atherogenic index.

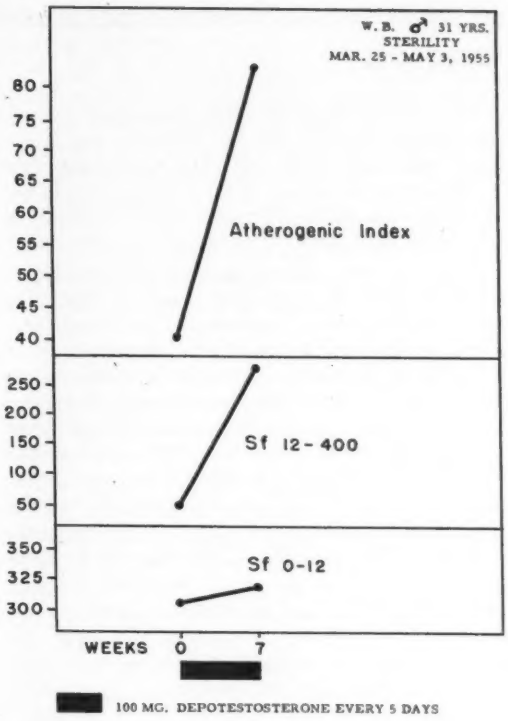

Fig. 3. The effect of androgen on lipoproteins and the atherogenic index.

sis of cholesterol feeding.[12] Heparin also removes fat from the blood stream, and fat promotes thrombosis —especially during the first 4 to 6 hours after the meal. Alimentary lipemia, particularly that produced by butter fat, is associated with increased coagulability, platelet adhesiveness, adhesiveness and aggregation of erythrocytes, and increased viscosity. Finally, coronary patients are known to have more intense postprandial chylomicronemia, and heparin effects this clearing promptly.[13, 14]

Constantinides,[15] working with various sulfated polysaccharides, determined that sulfated alginic acid, a synthetic heparin-like compound, abolished the lipemia, reduced the hypercholesterolemia, and inhibited the atherosclerosis produced by cholesterol feeding in rabbits without prolonging the blood clotting time. Moreover, sulfated alginic acid displayed considerably greater antilipemic activity than heparin. During its activity, it was observed unfortunately to cause a marked enlargement of the spleen with lipid storage, and glomerular foam cells were found in the kidneys of many of the treated animals.

Further research with these polysaccharides may lead to the discovery of compounds with maximum antiatherogenesis effect but with minimal side effects.

ESTROGENS

Estrogens, by virtue of potent gonadotrophic blocking ability, depress testicular androgen production. Since androgens effect very unfavorable lipoprotein changes (marked increase in the beta-lipoproteins and especially in the Sf 12-400 group), estrogens should be of decided value for male victims of atherosclerosis.[16]

There is much clinical, pathological, and experimental information suggesting gonadal steroid influence upon the relative susceptibility to atherogenesis. Clinically and pathologically, premenopausal women generally have relative immunity to atherosclerosis as compared to men. They lose this protection in the years following the menopause. Gertler[17] has found a paucity of atherosclerosis in eunuchs and a greater liability of the mesomorph with predominant "maleness" to infarct. Katz[18] has demonstrated estrogen "prophylaxis" against experimental chick atherosclerosis as well as "reversal" of atherosclerosis by estrogen. There is evidence of the improved coronary status, clinically, of the prostatic carcinoma patient treated with large doses of estrogen. Wuest[19] has found increased atherosclerosis in autopsies on patients with bilateral oophorectomies.

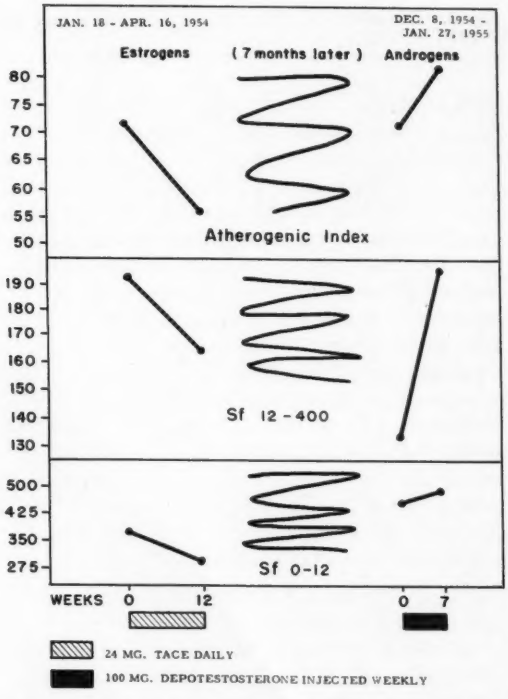

Fig. 4. Effects of estrogens and androgens on the lipoproteins and atherogenic index in a 28 year old female amputee with diabetes.

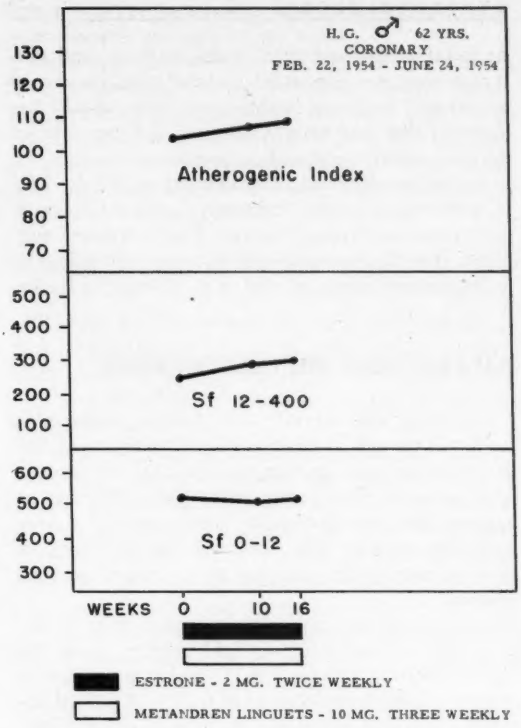
H. G. ♂ 62 YRS.
CORONARY
FEB. 22, 1954 - JUNE 24, 1954
Atherogenic Index
Sf 12-400
Sf 0-12
WEEKS 0 10 16
ESTRONE - 2 MG. TWICE WEEKLY
METANDREN LINGUETS - 10 MG. THREE WEEKLY

Fig. 5. Effect of estrogen, blocked by concomitant androgen, on lipoproteins and the atherogenic index.

These considerations prompted a study,[16] which I undertook in January, 1954, of the effect of gonadal steroids upon serum lipoprotein patterns (analyzed by the ultracentrifuge). Atherosclerotic men and women received estrogens. Normal men, hypogonadal men, and premenopausal women were given androgens. An atherosclerotic diabetic woman was studied under the separate influences of estogen and androgen. Atherosclerotic men received progesterone. (The generous cooperation of Squibb, Upjohn, and Pfizer is acknowledged in this steroid study.) A group of castrated patients with prostatic carcinoma, with and without estrogen therapy, had lipid analyses. Lipoprotein analyses and serum cholesterols were performed on all cases (fig. 1-5).

In the 40 cases studied, results clearly indicated improvement of the atherogenic state of the lipoprotein pattern by estrogens, and adverse effect on this pattern by androgens, with progesterone producing only minor changes. The improved lipid patterns and the paucity of serious side effects, in a serious disorder, have encouraged the continued use of estrogens for the past three and one-half years in a group of coronary patients. Clinical and laboratory analyses will be summarized after a 5 year study.

BETA-SITOSTEROL

In 1951-1952, Peterson[20, 21] noted that the anticipated hypercholesterolemia and atherosclerosis in chicks fed cholesterol enriched diets were prevented by the addition of sitosterol (soybean lipid). Pollak[22, 23] reported comparable studies in cholesterol-fed rabbits and in human beings with hypercholesterolemia. Hernandez and Chaikoff[24] found that the recovery of C-14 labeled cholesterol from the thoracic duct of cholesterol-fed rats was reduced substantially by the addition of as little as 4 mg. of sitosterols to a meal containing 100 mg. of cholesterol. When Pollak repeated these results in rabbits with a sitosterol to cholesterol ratio of 7 to 1, none of the cholesterol was absorbed. Subsequent investigators[25-29] have reported decreases in the serum cholesterols, total lipids, and neutral fats in normal and hypercholesterolemic human beings given varying doses (9 to 20 Gm.) of sitosterol daily. Best[26] reported, in addition, impressive depressions of the atherogenic Sf 3-100 lipoprotein groups after beta-sitosterol administration. Farquar,[30] studying beta-sitosterol effects on the serum lipids of young men with coronary heart disease, described highly significant reductions in both their serum cholesterols and beta-lipoprotein lipids.

In all studies reported to date, including those continued for 18 months, there have been no untoward effects of sitosterol administration, nor has there been noted any loss of its depressant effect upon the serum lipids in the group responding. The preparations were considered palatable, were well tolerated, and in no instance was there unusual weight change if patients continued with their usual diets.

DISCUSSION

Chemically, sitosterol is the chief sterol in the nonsaponifiable fraction from soybeans, cottonseed, corn, wheat, and other grains. Thus it is a plant sterol or phytosterol. It is closely related to cholesterol, differing only in presence of an ethyl group on C^{24}. It is found exclusively in the plant kingdom, however only in small amounts, and therefore, diet alone does not provide sufficient concentration for therapeutic use. In the mammalian organism, it is nutritionally inert and has no pharmacological action.

Gould[31] fed tritium labeled pure beta-sitosterol to rats and humans and found that although a small percentage of sitosterol is absorbed (10 per cent as compared to cholesterol), it disappears from the blood in man much more rapidly than does labeled cholesterol, suggesting that rapid excretion of sitosterol may prevent its accumulation in the body. Beta-sitosterol cannot be converted into cholesterol in the animal organism.

There are two current postulates concerning the mode of sitosterol action. One is advanced separately by Pollak and by Pfeiffer and Davis of Lilly Research Laboratories. They think it is effective by forming an admixture of stable, nonresorbable mixed crystals with a ratio of 1 to 1 when combined with cholesterol in the gut. This admixture occurs with the dietary as well as with the endogenous source of cholesterol secreted in the bile and through the wall of the intestinal tract. Both cholesterols (exogenous and endogenous) are in the free state, and both are acted upon by sitosterol. Therefore, the effect of sitosterol is greater than would be mere dietary restriction of cholesterol. Best[27] suggests that sitosterol also interferes with fat absorption, leading to lower levels of serum neutral fat.

The second postulate regarding sitosterol action derives from in vitro evidence that sitosterol, so closely related to cholesterol structurally, can be esterified by the same esterase as cholesterol. If more sitosterol is present in the gut, it is more successful in the competition for the enzyme. Thus, it ties up the available esterases to form insoluble sitosterol esters and thus prevents the smaller amount of cholesterol from being absorbed.[5] Hernandez[24] confirms this with his rat experiments. Thus, the absorption of both dietary and endogenous cholesterol is interfered with by either one or both of these mechanisms, and considerable evidence is accruing to attest to blockage of lipid absorption as well.

The sitosterols used clinically are prepared in palatable suspensions, administered orally, and consist of 80 to 90 per cent beta-sitosterol with 10 to 20 per cent dihyro-beta-sitosterol (Lilly's suspension Cytellin). It is necessary that this material be taken immediately before each meal, the suggested dosage being 1 to 3 tablespoons, depending upon the size of the meal and its fat content. Each tablespoon provides 3 Gm. of sitosterols. The drop in lipids usually begins within the first week, with a continued depression occurring during the succeeding 4 to 8 weeks. Continued effects, with continued administration of beta-sitosterol, have been reported for as long as 18 months. The average reduction in serum lipids ranged from 10 to 20 per cent as reported in 90 per cent of patients. Sixty-five per cent of patients experienced a considerable reduction, 25 per cent a moderate reduction, and 10 per cent slight or no reduction. The fall in level of lipids was not impressive with doses of less than 9 Gm. daily. In those on strict low fat diets, the addition of sitosterol produced a further lowering of the serum lipids. In 1 case reported, sitosterol suppressed the growth of xanthomas. Beta-sitosterol was effective in lowering the serum cholesterol in hypothyroidism.[28]

My experience concerns itself with the administra-

TABLE 1.—*Results of Beta-Sitosterol Therapy in 25 Cases of Atherosclerosis.*

Patient	Determination	Control	Weeks of Therapy					Comment
			4	8	12	16	20	
1	Cholesterol	292	235	204				Cerebrovascular thrombosis
	Sf 0-12	452	384	345				
	Sf 12-400	174	61	52				
	A. I.	76	49	44				
2	Cholesterol	268	204	240	282	260	190	Coronary
	Sf 0-12	751	482	495	625	578	522	
	Sf 12-400	440	322	315	353	440	334	
	A. I.	152	105	105	124	135	111	
3	Cholesterol	170		204	302			Angina
	Sf 0-12	175	142	165	184			
	Sf 12-400	1223	669	804	1070			
	A. I.	232	131	157	206			
4	Cholesterol	228	228	232		165		Coronary
	Sf 0-12	495	423	360		318		
	Sf 12-400	292	412	477		201		
	A. I.	101	114	120		67		
5	Cholesterol	228	228					Angina
	Sf 0-12	481	502					
	Sf 12-400	184	242					
	A. I.	80	93					
6	Cholesterol	325	170	228			190	Family history of coronary
	Sf 0-12	630	468	570			516	
	Sf 12-400	227	243	100			208	
	A. I.	103	89	75			88	
7	Cholesterol	235	210	204	204			Coronary
	Sf 0-12	367	240	362	390			
	Sf 12-400	302	311	171	294			
	A. I.	90	78	66	90			
8	Cholesterol	204	182					Internal carotid artery thrombosis
	Sf 0-12	413	401					
	Sf 12-400	45	24					
	A. I.	49	44					
9	Cholesterol	204	240					Atherosclerosis
	Sf 0-12	499	639					
	Sf 12-400	150	312					
	A. I.	76	119					
10	Cholesterol	282	235		240			Cerebrovascular thrombosis
	Sf 0-12	453	369		340			
	Sf 12-400	108	98		150			
	A. I.	64	54		60			
11	Cholesterol	282	268	254				Coronary
	Sf 0-12	587	568	600				
	Sf 12-400	530	308	349				
	A. I.	151	111	121				
12	Cholesterol	204	180		180			Coronary
	Sf 0-12	430	341		404			
	Sf 12-400	117	179		116			
	A. I.	64	66		61			
13	Cholesterol	292	260	250				Coronary
	Sf 0-12	648	568	608				
	Sf 12-400	469	252	241				
	A. I.	147	101	103				

TABLE 1.—*Results of Beta-Sitosterol Therapy in 25 Cases of Atherosclerosis* — Continued.

Patient	Determination	Control	Weeks of Therapy					Comment
			4	8	12	16	20	
14	Cholesterol	220	190	228		182	170	Coronary
	Sf 0-12	454	375	381		469	320	
	Sf 12-400	417	384	336		390	310	
	A. I.	118	105	97		115	86	
15	Cholesterol	210	241					Angina
	Sf 0-12	469	453					
	Sf 12-400	225	302					
	A. I.	86	98					
16	Cholesterol		220		204			Coronary
	Sf 0-12	468	454		418			
	Sf 12-400	289	187		210			
	A. I.	97	78		79			
17	Cholesterol	226	282	241				Coronary
	Sf 0-12	544	473	522				
	Sf 12-400	449	339	336				
	A. I.	133	107	111				
18	Cholesterol	182	170					Cerebrovascular thrombosis
	Sf 0-12	470	373					
	Sf 12-400	203	239					
	A. I.	83	79					
19	Cholesterol	228	190					Angina
	Sf 0-12	487	421					
	Sf 12-400	276	252					
	A. I.	97	86					
20	Cholesterol	335	275	275				Family history of coronary
	Sf 0-12	478	452	517				
	Sf 12-400	1159	769	569				
	A. I.	249	180	151				
21	Cholesterol	190	180					Family history of coronary
	Sf 0-12	434						
	Sf 12-400	266						
	A. I.	90						
22	Cholesterol	282	182					Hypertension atherosclerosis
	Sf 0-12	572	452					
	Sf 12-400	140	116					
	A. I.	82	66					
23	Cholesterol	338	241					Xanthomatosis
	Sf 0-12	830	578					
	Sf 12-400	217	104					
	A. I.	121	76					
24	Cholesterol	182	176					Cardiovascular disease
	Sf 0-12	505						
	Sf 12-400	212						
	A. I.	88						
25	Cholesterol	182	204					Coronary
	Sf 0-12	459	447					
	Sf 12-400	255	190					
	A. I.	90	78					

A. I. = Atherogenic index.

tion of beta-sitosterol in doses of 12 Gm. daily to a group of 25 persons. Twenty-one had proven atherosclerotic disease (either coronaries, occlusive vascular processes, or cerebrovascular thrombotic accidents), and 4 were "probable" atherosclerotics (members of families with high incidence of coronary disease and showing elevated serum cholesterols and abnormal lipoprotein spectra). Diets were unrestricted. Initial control serum cholesterol determinations by the Bloor method and ultracentrifugal analysis of the lipoproteins were made. These studies were repeated at 4, 8, 12, 16, and 20 week intervals. Patients were weighed each time. The results are tabulated in table 1 and figure 6. There was no difficulty in obtaining

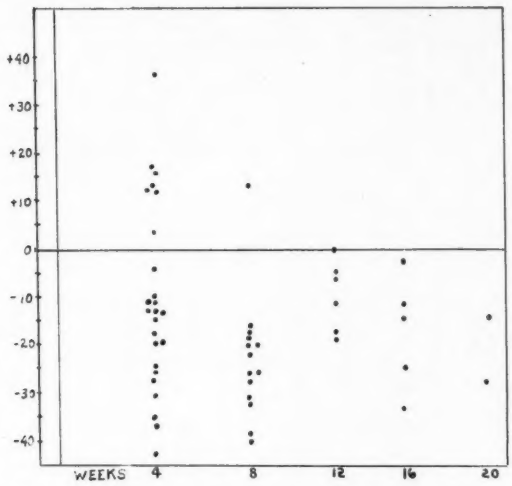

Fig. 6. The effect of sitosterol on the serum atherogenic index in 25 patients. The figures along the bottom indicate weeks of continuous administration of sitosterol and the figures at the left indicate the percentage of change.

cooperation, as patients were instructed that the beta-sitosterol was a food supplement. There were no untoward or toxic signs noted, nor were there any impressive weight changes. Three patients were convinced that the medication constipated them; the rest thought the stools were bulkier and looser. (Cytellin contains carboxymethyl-cellulose).

SUMMARY

Although we are yet far afield of specific and complete understanding of the mechanism, specific treatment, and prophylaxis of atherogenesis, it is encouraging to see the wave of pessimism slowly receding. We are beginning to suspect that atherogenesis is not an aging process, is not inevitable, and indeed perhaps may be preventable and reversible. While, for the moment, there are a number of fairly logical empirical procedures in the approach to the various spheres of the problem, much work lies ahead. It must be recognized that inasmuch as there is no one common etiologic abnormality operative in all lipoprotein metabolic defects, there is no single panacea. It is necessary to consider each individual patient, and one must evaluate objectively, by studying during treatment, the serum cholesterol and serum lipoprotein patterns, and thus determine which of the several measures is most efficacious. In one patient, the attack may be dietary; in another, estrogens are of greater promise; heparin may be the treatment of choice in still another; while in other instances, plant sterols, linoleic acid preparations, or other pharmaceuticals may prove to be of help. In many cases, combinations of these various approaches may be indicated.

REFERENCES

A list of references may be obtained from the author.

Dr. Cooper, 505 Howard, San Antonio 1.

Dysfunctional Uterine Bleeding

Diagnosis and Treatment

ROGER B. SCOTT, M.D.

Cleveland, Ohio

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The term dysfunction means a disorder of function and, when applied to uterine bleeding, generally indicates some disturbance which affects the intricate balance between the pituitary, ovaries, and endometrium. "Dysfunctional" is preferred to "functional" because the latter word has connotations of a psychogenic nature which may be present only rarely. Many writers have objected to "dysfunctional" and prefer the words "idiopathic," "essential," or "unexplained." Admittedly the category becomes a scrap basket wherein we file those instances of abnormal bleeding

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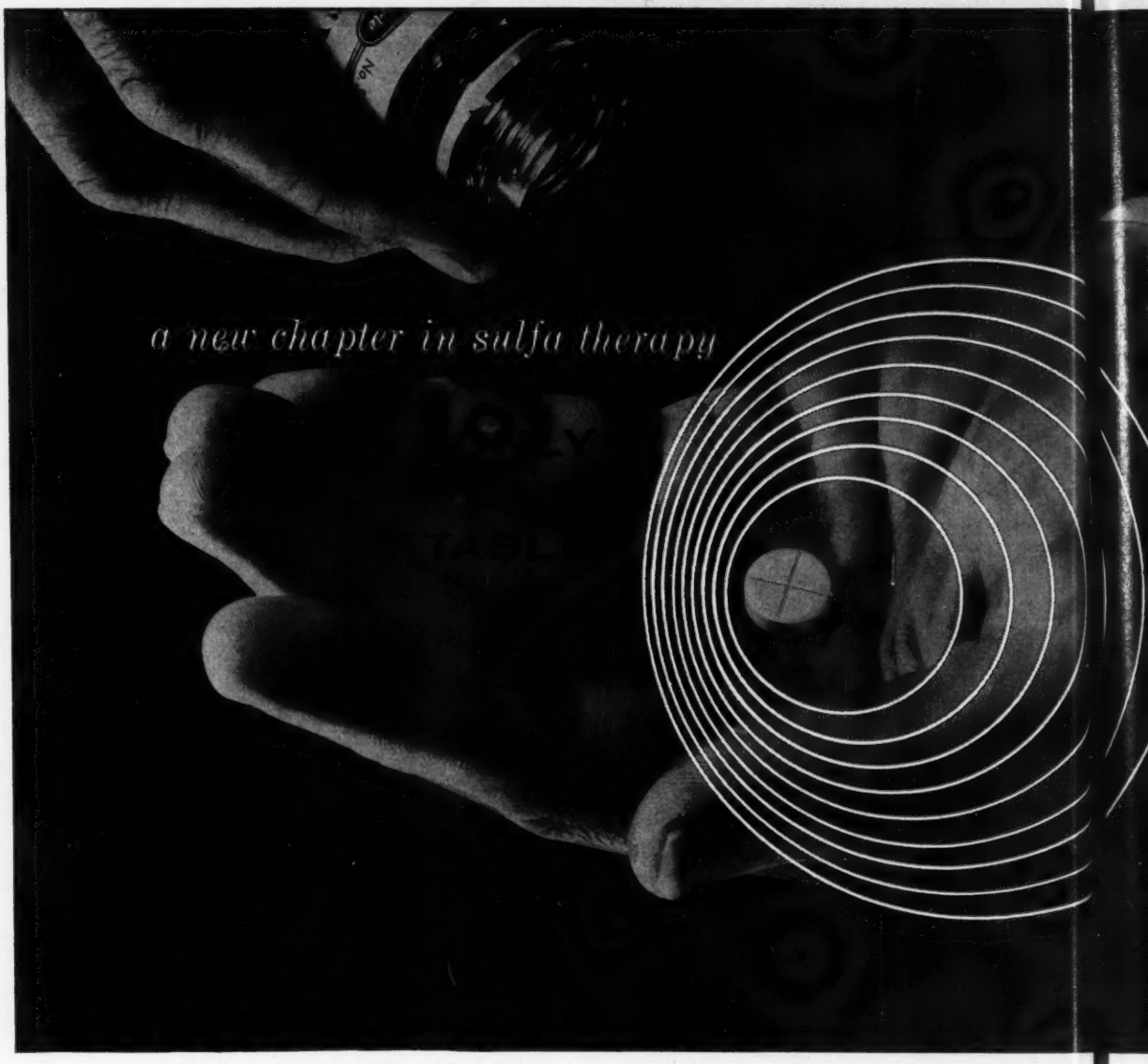

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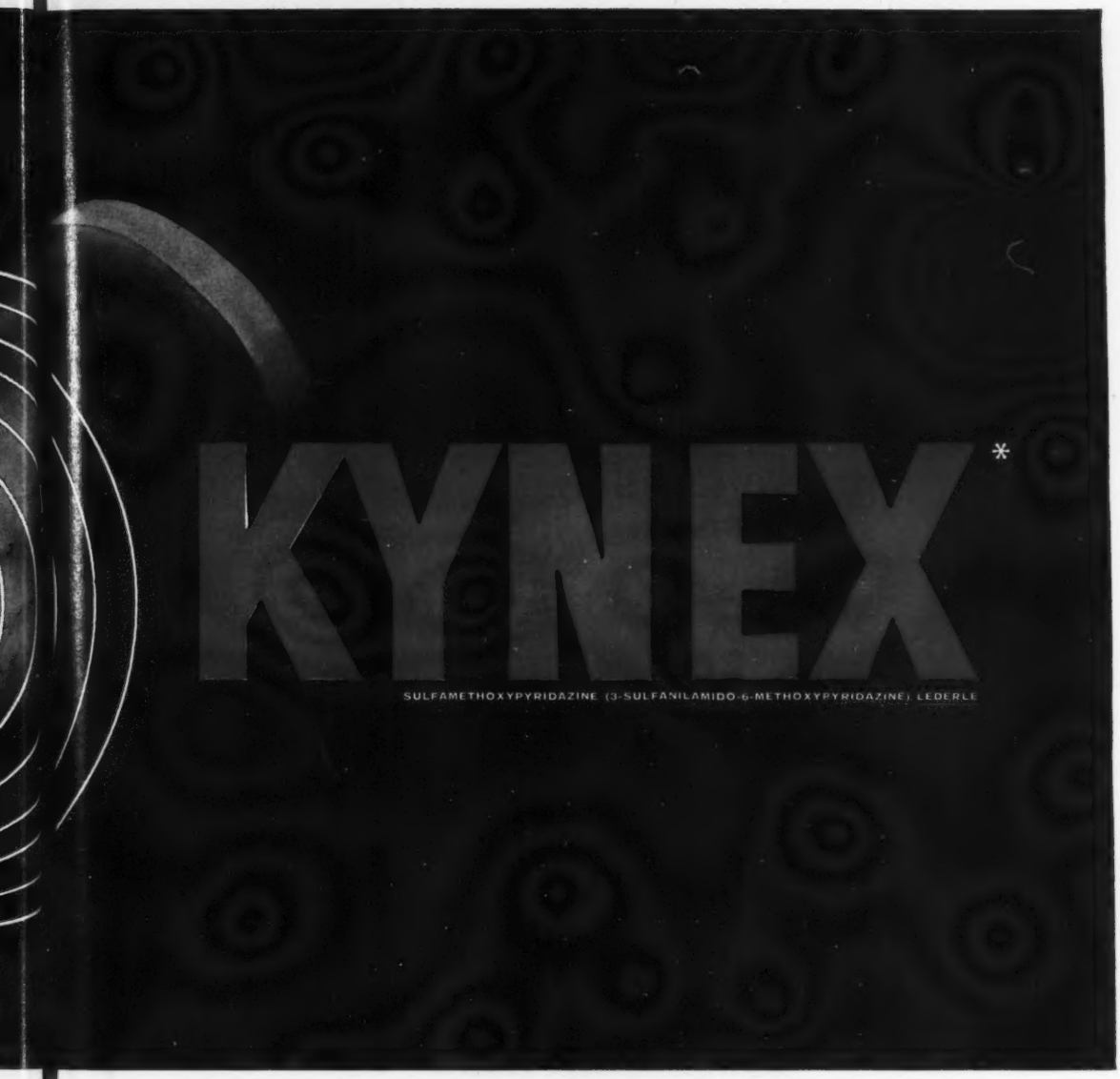
1. Nichols, R. L. and Finland, M.: *J. Clin. Med.* 49:410, 1957.



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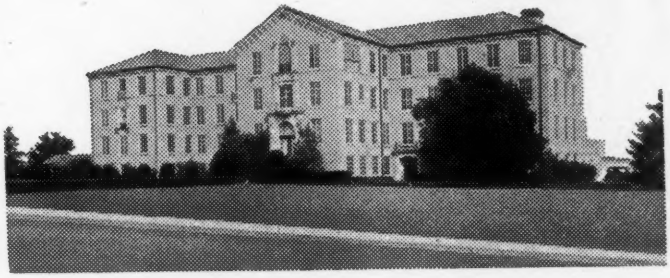

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which we are unable to explain on a more or less definite cause and effect basis. Possibly it represents an honest admission of our lack of knowledge about many of the complexities of the endocrine-endometrium relationships.

A complete review of the physiology of normal menstruation would be redundant. Progesterone withdrawal from an estrogen-primed endometrium generally results in normal menstruation. Despite the beautiful demonstrations by Markee[4] of the apparent role of the coiled arterioles of the endometrium in the process of desquamation, a New World monkey, which has cyclic menstruation, does not have these coiled arterioles. If the woman does not ovulate and progesterone is not produced, the endometrium is subjected to the unopposed influences of estrogen, and desquamation becomes haphazard and the bleeding unpredictable as to both time and amount. Episodes of bleeding unassociated with ovulation (which some

Dr. Roger B. Scott, associate professor of obstetrics and gynecology, Western Reserve University School of Medicine, presented this paper as a refresher course May 1, 1957, in Dallas at the Texas Medical Association annual session.

Two peaks of dysfunctional uterine bleeding are generally recognized—one at the beginning of menstrual function and another near the end. The latter peak accounts for most of these problems. A diagnosis of dysfunctional uterine bleeding can be made only after all organic causes have been excluded. The successful outcome from any treatment plan is helped by the therapeutic value of the diagnostic curettage and by the high incidence of spontaneous cures.

authors refuse to dignify by the term menstruation) probably occur in 4 to 5 per cent of all the cycles during the years of active menstrual function, but they are most common in the puberal and premenopausal years, the years of developing and the years of declining ovarian function. Of course, a certain minority of women have frequent and prolonged episodes of anovulatory bleeding.

The true reasons behind the episodes of anovulatory bleeding usually defy analysis. General nutrition and health, changes of work and environment, emotional disturbances, and so forth can initiate phases of this type, possibly through hypothalamic channels. Obesity is not infrequently associated with this problem; although many physicians use dessicated thyroid on an empiric basis, suspecting a subclinical hypothyroidism, substantial and valid facts and information are not available on the role of the thyroid in genital function. The adrenal contribution to this disturbed ovarian function is also an uncertain one; immeasurable alterations in the adrenal steroids may adversely affect the pituitary-ovarian balance. The Stein-Leventhal syndrome, of uncertain etiology, has lack of ovulation as one of its characteristics and may be associated with abnormal uterine bleeding rather than amenorrhea. From a clinical viewpoint I suspect that congenitally poor endocrine equipment may at times be an inadequate but true explanation.

The endometrial pattern is endometrial hyperplasia or nonsecretory proliferative endometrium in roughly 85 per cent of these patients with dysfunctional uterine bleeding. Unfortunately many of our curettages are done after prolonged bleeding and consequent desquamation of the more responsive outer and middle endometrial layers; the material obtained by curettage may be only the basal endometrium, a zone which seldom responds in the usual manner to hormonal influences and rarely shows evidence of prolonged and uninhibited estrogens, that is, endometrial hyperplasia. It is also known that there is an individual variation in endometrial response, for given amounts of estrogens will result in endometrial hyperplasia in some women while in others a normal proliferative pattern develops or the endometrium may become atrophic after prolonged stimulation, as occurs frequently in Rhesus monkeys.

Profuse or prolonged bleeding with ovulatory cycles may occur in roughly 10 per cent of the group with dysfunctional uterine bleeding. It is postulated that the corpus luteum produces insufficient progesterone and/or the withdrawal of progesterone is slow; again it is felt that the endometrial response is inconstant and patchy and that the vascular bed of the endometrium reacts in an unphysiologic manner. The terms "irregular ripening" and "irregular shedding" have been applied to this little understood group. So few of these women respond favorably to additional progesterone that I have come to doubt that progesterone deficiency is the basic problem.

PREREQUISITES TO DIAGNOSIS

By definition all organic causes of abnormal uterine bleeding must be ruled out before it can be called dysfunctional. This means that we must use all of our techniques and our tools to eliminate pregnancy complications, inflammation, benign and malignant tumors, chemical burns, and other conditions. Before treatment has been initiated the following must be done:

1. Complete history and physical examination taken.
2. Vaginal and rectovaginal examination, including vaginal speculum examination.
3. Papanicolaou cytology test by aspiration of the

cervical canal and blunt scraping about the cervical os. A cornification count on this material also should be requested, since this gives a rough estimate of estrogenic influence.

4. Biopsy of any ulcerative or exophytic growth.

5. Blood examination as indicated. This must be complete if there is any suspicion from the history or examination of a blood dyscrasia.

6. Thyroid function studies as indicated (basal metabolism, blood cholesterol, protein-bound iodine, and radioactive iodine uptake studies).

7. Adequate pelvic examination under anesthesia immediately prior to curettage and cervical biopsies.

8. Thorough diagnostic curettage (not endometrial biopsy) and biopsies of the cervix. If the results of the cytology studies are suspicious or positive, a sharp knife conization of the cervix should be done at the time of, but prior to, the dilatation and curettage. Schiller's iodine, or a 7 per cent alcoholic solution of iodine, may be applied to the cervix in order to delineate abnormal areas devoid of glycogen. A Randall kidney stone clamp, or similar type of polyp forceps, should be used routinely as a part of the procedure of curettage.

9. On certain occasions hysterosalpingography, culdoscopy, and posterior colpotomy may be necessary for complete diagnostic evaluation.

It is only rarely that we can justify treatment without curettage; for example, the initial episode or two of prolonged and profuse flow in a teenager; the isolated episode or so of profuse but not prolonged flow; and the one to three days of scant flow at midinterval, which is interpreted as ovulation bleeding.

In view of the known therapeutic effect of a curettage and the importance of complete studies, it is unwise to procrastinate despite the inconveniences of hospitalization and the usual shortage of hospital beds. The presence of a cervical polyp may seem a reasonable explanation for the abnormal bleeding, yet it may be just a trap which lulls us into delay in the diagnosis of a cervical or endometrial cancer present above the visible polyp.

TREATMENT

Once the diagnosis of dysfunctional bleeding has been established, treatment plans have in general been a hodgepodge of confusion, varying with the individual and the currently popular hormone, hormone combination, or antihemorrhagic agent. Fortunately two things contribute to a successful outcome and also account for many "cures" from any treatment plan:

1. The diagnostic curettage has a definite therapeutic value.[1] The fact is true; the reason is vague. It may be simply that necrotic and infarcted endometrium is removed down to the basal arteries, allowing for a fresh start. Many gynecologists suspect that unrecognized polyps removed by curettage account for a certain percentage of these favorable results.

2. The incidence of spontaneous cures (return to normal, ovulatory, cyclic function) is high. Time alone may be more curative than any treatment.

General nutritional and emotional factors must be corrected insofar as possible. Iron therapy and whole blood transfusions may be necessary. It is probably advisable to withhold dessicated thyroid unless a true thyroid deficiency exists; however, there seems to be little harm and possibly much benefit that could result from small amounts of thyroid for patients with low normal thyroid function studies, particularly if they are overweight. In addition diet instruction should be given to the overweight woman.

Basal body temperatures are an important, yet frequently overlooked, part of the conservative postcurettage follow-up. This gives a fairly accurate indication as to the nature of subsequent episodes of bleeding, whether they are ovulatory or nonovulatory.

Episodes of profuse flow for one to three days, when there is evidence of ovulation, usually can be controlled by bed rest, ice bag, and Ergotrate.

If anovulatory cycles continue and the abnormal bleeding becomes a problem, progesterone would seem to be the hormone of choice. Generally, as previously noted, these women have a qualitative (not necessarily quantitative) excess of estrogen and because they do not ovulate, are deficient in progesterone. Progesterone in oil, 25 mg. intramuscular for three days or 60 to 75 mg. of sublingual or buccal progesterone for three to five days, usually will result in slowing or cessation of the bleeding; withdrawal bleeding, the so-called medical curettage, will occur in two to four days after stopping the progesterone. Dating from the first day of withdrawal bleeding, the progesterone course should be repeated twice, beginning on the twentieth day. Progesterone by vaginal tablets, 50 mg. a day for three to five days, is a convenient method of administration for the repeat cycles. Holmstrom[3] has been impressed with his results from a single intramuscular injection of 25 or 50 mg. on the twenty-fourth day of the cycle. If bleeding does not occur within four days after the last dose of progesterone, it can be postulated that the patient is producing her own progesterone (that is, she has ovulated), she is pregnant, or the endometrium has insufficient estrogen stimulation. If by this means or by pelvic examination and vaginal cornification count there is evidence of estrogen lack, small amounts of synthetic or conjugated estrogen should be added to the above cyclic regimen, beginning on the first day and continuing through until the end of each progesterone course.

This planned treatment is relatively simple. It is not too confusing for the patient or the physician. It is rational substitution therapy. In the young girl, just trying to develop proper ovarian function, two or three courses of progesterone might be advisable postcurettage, before the dysfunctional bleeding has recurred. Certainly the courses can be repeated as often as necessary, awaiting the time when full ovulatory cycles ensue spontaneously. To a certain extent this is true up to the age of 40 years or so. The picture changes as the years of waning ovarian function complicate the problem; the ovarian potential becomes less and less and postcurettage progesterone cycles are used more for immediate control than for future hope. If two curettages and an adequate trial of cyclic hormone therapy have been unsuccessful in controlling such a woman in this older age group, future child-bearing is not a concern, and there are no medical contraindications, a hysterectomy should be done, preferably vaginal.

Testosterone inhibits estrogens and the pituitary and increases uterine vascular and muscular tone, yet masculinization is an ever present danger and therapeutic results are equivocal. Estrogen-progesterone and estrone-progesterone-testosterone combinations[2] have their advocates. Estrogens alone or in combination can produce endometrial growth and inhibit bleeding, but they must be withdrawn gradually or the withdrawal bleeding becomes more of a problem than the original one. I have used intravenous conjugated estrogens with success in emergencies, such as uterine hemorrhage with acute leukemia or following myomectomy.

Toluidine blue and protamine sulfate have been used for dysfunctional uterine bleeding on the basis that they neutralize some unidentified inhibitor to blood clotting. Certainly more well controlled clinical studies are needed before gynecologists can be expected to develop enthusiasm about these.

Ovarian and pituitary x-irradiation and intrauterine radium are dangerous and unpredictable for the treatment of benign disease, and serious genetic implications are much debated. Castration by x-irradiation or intrauterine radium in the premenopausal years is a poor, but occasionally necessary, second choice to surgery. The evidence that the tissue roentgens used for castration are cancerogenic is scant, but the danger that an unrecognized malignancy may be improperly treated is great.

SUMMARY

Dysfunctional uterine bleeding is defined as abnormal bleeding from the uterus for which there is no organic cause within the pelvis or systemically. In the majority of instances it is secondary to an absence of ovulation, that is, progesterone deficiency and unopposed qualitative estrogen excess.

Endometrial hyperplasia or nonsecretory, proliferative endometrium is the uterine mucosal pattern found in the large majority of patients. "Irregular ripening" and "irregular shedding" are discussed.

A complete study is necessary to exclude organic disease. This includes history, complete physical examination with pelvic examination, cytology studies, pelvic examination under anesthesia, uterine curettage, cervical biopsies, and blood and thyroid function studies as indicated. Sharp knife conization of the cervix may be necessary if the cytology report is suspicious or positive.

The therapeutic effect of curettage and the high incidence of spontaneous "cure" are reasons for subsequent conservative observation. Blood and nutritional deficiencies must be corrected, diet controlled, and emotional disturbances overcome as much as possible. Dessicated thyroid may be indicated.

On the basis of the usual hormonal deficiency, cyclic progesterone therapy seems most rational when the abnormal bleeding recurs. Cyclic estrogen also may be necessary if warranted by the pelvic examination, low cornification count, and absence of withdrawal bleeding within four days after the last dose of progesterone.

Basal body temperature readings are stressed as an aid to the follow-up.

Time and the expected establishment of normal ovarian function are prime considerations for the problem in the puberal girl.

Surgery is favored over irradiation for the problem in the premenopausal woman when two curettages and an adequate trial on progesterone therapy have failed.

Other hormone and hormone combinations and the "anti-hemorrhagic" medications are very briefly discussed.

REFERENCES

1. Benson, R. C., and Miller, J. N.: Surgical Curettage: Its Value in Abnormal Uterine Bleeding, Obst. & Gynec. 8:523-530 (Nov.) 1956.

2. Greenblatt, R. B., and Barfield, W. E.: Hormonal Control of Functional Uterine Bleeding, Am. J. Obst. & Gynec. 63:153-157 (Jan.) 1952.

3. Holmstrom, E. G.: Progesterone Treatment of Anovulatory Bleeding, Am. J. Obst. & Gynec. 68:1321-1329 (Nov.) 1954.

4. Markee, J. E.: Menstruation in Intraocular Endometrial Transplants in the Rhesus Monkeys, Contribution to Embryol. 177, Carnegie Institution, Washington Publication 518:223-308, 1940.

5. Rumbolz, W. L.; Moon, C. F.; and Novelli, J. C.; Use of Protamine Sulfate and Toluidine Blue for Abnormal Uterine Bleeding, Am. J. Obst. & Gynec. 63:1029-1037 (May) 1952.

6. Scott, R. B.; Premenopausal and Postmenopausal Vaginal Bleeding; Technic of Diagnosis and Certain Aspects of Treatment: Geriat. 10:563-570 (Dec.) 1955.

♦ Dr. Scott, Associate Professor of Obstetrics and Gynecology, Western Reserve University School of Medicine, Cleveland, Ohio.

★ Coming Meetings

Texas Medical Association, Houston, April 19-22, 1958 (Executive Council, Jan. 19, 1958). Dr. Denton Kerr, Houston, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Executive Secy.

American Medical Association, San Francisco, June 23-27, 1958. Dr. David B. Allman, Atlantic City, Pres.; Dr. George F. Lull, 535 North Dearborn, Chicago 10, Secy.

Current Meetings

JANUARY

Texas Radiological Society, San Antonio, Jan. 24-25, 1958. Dr. T. G. Russell, Houston, Pres.; Dr. J. E. Miller, 6407 Forest Lane, Dallas 30, Secy.

Texas Society of Pathologists, Dallas, Jan. 25-26, 1958. Dr. Lloyd Hershberger, San Angelo, Pres.; Dr. Mervin H. Grossman, Box 57, Dallas, Secy.

Twelfth District Society, Corsicana, January 14, 1958. Dr. George C. Bryant, Waco, Pres.; Dr. J. T. Archer, Jr., Meridian, Secy.

International Medical Assembly of Southwest Texas, San Antonio, Jan. 27-29, 1958. Dr. John C. Parsons, 1125 Nix Professional Bldg., San Antonio, Secy.; S. E. Cockrell, 202 W. French Place, San Antonio, Exec. Secy.

FEBRUARY

American Academy of Allergy, Philadelphia, Feb. 3-5, 1958. Dr. Carl E. Arbesman, Buffalo, N. Y., Pres.; Dr. Francis C. Lowell, 65 E. Newton, Boston, Secy.

American Academy of Dermatology and Syphilology, Chicago, Feb. 3-5, 1958. Dr. James R. Webster, Chicago, Pres.; Dr. R. R. Kierland, Mayo Clinic, Rochester, Minn., Secy.

American College of Radiology, Chicago, Feb. 5-8, 1958. Mr. W. C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

Southwest Allergy Forum, Shreveport, Feb. 23-25, 1958. Dr. H. Whitney Boggs, Shreveport, Pres.; Dr. J. D. Youman, 2021 Line Ave., Shreveport, Secy.

Texas Association of Obstetricians and Gynecologists, Galveston, February, 1958. Dr. Arthur M. Faris, Houston, Pres.; Dr. Oran V. Prejean, 4317 Oak Lawn, Dallas, Secy.

Texas Proctologic Society, Fort Worth, February, 1958. Dr. Hugh Beaton, Fort Worth, Pres.; Dr. C. P. Hardwicke, 920 E. 32nd, Austin, Secy.

Texas Public Health Association, Dallas, Feb. 23-26, 1958. Mr. J. N. Murphy, Jr., Austin, Pres.; Mr. Wayne Garrett, City Health Department, Fort Worth, Executive Secy.

First District Society, February, 1958. Dr. W. A. Jones, El Paso, Pres.; Dr. E. S. Crossett, 309 Medical Arts Bldg., El Paso, Secy.

National and Regional

American Academy of General Practice, Dallas, March 24-27, 1958. Dr. Malcom E. Phelps, El Reno, Okla., Pres.; Mr. Mac F. Cahal, Volker Blvd. at Brookside, Kansas City 12, Executive Secy.

American Academy of Obstetricians and Gynecologists, Los Angeles, April 21-23, 1958. Dr. R. Gordon Douglas, New York, Pres.; Dr. John C. Ullery, Ohio State University Hospital, Columbus, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 12-17, 1958. Dr. Leroy A. Schall, Boston, Pres.; Dr. W. L. Benedict, 15 Second St. S.W., Rochester, Minn., Secy.

American Academy of Pediatrics, New York, April 21-23, 1958. Dr. Stewart H. Clifford, Brookline, Mass., Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Secy.

National Tuberculosis Association, Philadelphia, May 18-23, 1958. Dr. William M. Morgan, New York, Pres.; Mrs. Wallace B. White, 1790 Broadway, New York 19, Secy.

American Association for Maternal and Infant Health, 1960. Mr. Howard I. Wells, Jr., 116 S. Michigan Ave., Chicago 3, Executive Secy.

American Association for Thoracic Surgery, Boston, May 16-18, 1958. Dr. Brian Blades, Washington, D. C., Pres.; Dr. Hiram T. Langston, 600 S. Kingshighway, St. Louis 10, Mo., Secy.

American Association of Genito-Urinary Surgeons, Edgewater Park, Miss., April 23-25, 1958. Dr. George F. Cahill, New York, Pres.; Dr. W. J. Engel, 2 East 54th, New York 22, Secy.

American Association of Obstetricians and Gynecologists. Dr. William F. Mengert, Chicago, Pres.; Dr. E. Stewart Taylor, University of Colorado School of Medicine, 4200 E. 9th, Denver, Secy.

American Cancer Society, New York, Oct. 29-31, 1958. Dr. L. T. Coggeshall, Chicago, Pres.; M. R. Runyon, 521 W. 57th, New York, Executive Vice-Pres.

American College of Allergists, Atlantic City, April 20-25, 1958. Dr. Oval R. Withers, Kansas City, Pres.; Dr. Giles A. Koelsche, Mayo Clinic, Rochester, Minn., Secy.

American College of Chest Physicians, San Francisco, June 18-22, 1958. Dr. Burgess L. Gordon, Philadelphia, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Secy.

American College of Gastroenterology, New Orleans, Oct. 20-28, 1958. Dr. C. Wilmer Wirts, Philadelphia, Pres.; Mr. Daniel Weiss, 33 West 60th, New York 23, Executive Director.

American College of Physicians, Atlantic City, April 28-May 2, 1958. Dr. Richard A. Kern, Philadelphia, Pres.; Mr. E. R. Loveland, 4200 Pine, Philadelphia 4, Secy.

American College of Surgeons, Chicago, Oct. 6-10, 1958. Dr. William L. Estes, Bethlehem, Pa., Pres.; Dr. Michael L. Mason, 40 E. Erie, Chicago 11, Secy.

American Congress of Physical Medicine and Rehabilitation, Philadelphia, Aug. 24-29, 1958. Dr. Donald L. Rose, Kansas City, Kan., Pres.; Dorothea C. Augustin, 30 N. Michigan Ave., Chicago, Executive Secretary.

American Dermatological Association, Sun Valley, June 4-8, 1958. Dr. Clark W. Finnerud, Chicago, Pres.; Dr. Hamilton Montgomery, 200 1st, S.W., Rochester, Minn., Secy.

American Gastro-Enterological Association, Washington, D. C., May 30-31, 1958. Dr. F. J. Ingelfinger, 65 E. Newton, Boston 18, Secy.

American Gynecological Society, Asheville, N. C., May 19-21, 1958. Dr. Howard C. Taylor, Jr., New York City, Pres.; Dr. A. A. Marchetti, 3800 Reservoir Rd., N.W., Washington 7, D. C., Secy.

American Heart Association, San Francisco, Oct. 24-28, 1958. Dr. Robert W. Wilkins, New York, Pres.; Mr. John D. Brundage, 44 E. 23rd, New York 10, Secy.

American Hospital Association, Chicago, Aug. 18-21, 1958. Mr. Tol Terrell, San Angelo, Pres.; Dr. Edwin L. Crosby, 18 E. Division, Chicago 10, Executive Director.

American Laryngological, Rhinological, and Otological Society, San Francisco, May 21-23, 1958. No 1957 meeting. Dr. Lawrence R. Boies, Minneapolis, Pres.; Dr. C. S. Nash, 277 Alexander, Rochester 7, N. Y., Secy.

American Neurological Association, Atlantic City, June 16-18, 1958. Dr. Israel S. Wechsler, New York, Pres.; Dr. Charles Rupp, 133 S. 36th, Philadelphia 4, Secy.

American Ophthalmological Society, White Sulphur Springs, W. Va., May 28-30, 1958. Dr. Walter S. Atkinson, Watertown, N. Y., Pres.; Dr. M. C. Wheeler, 30 W. 59th, New York 19, Secy.

American Orthopedic Association, Hot Springs, Va., June 24-27, 1958. Dr. George O. Eaton, Baltimore, Pres.; Dr. Harold A. Safield, 715 Lake St., Oak Park, Ill.

American Pediatric Society, Atlantic City, N. J., May 8-9, 1958. Dr. A. Ashley Weech, Cincinnati, Pres.; Dr. A. C. McGuinness, Room 1036, 2800 Quebec St., N.W., Washington 8, D. C., Secy.

American Proctologic Society, Los Angeles, June 29-July 3, 1958. Dr. Julius E. Linn, Birmingham, Pres.; Dr. Norman D. Nigro, 10 Peterboro, Detroit 1, Secy.

American Psychiatric Association, San Francisco, May 12-16, 1958. Dr. Harry C. Solomon, Boston 15, Pres.; Dr. William Malamud, 80 E. Concord, Boston 18, Secy.

American Public Health Association, St. Louis, Oct. 27-31, 1958. Roy J. Morton, New York 19, Pres.; Dr. Berwyn F. Mattison, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, Pittsburgh, Pa., Oct. 19-24, 1958. Dr. Ralph S. Sappenfield, Miami, Pres.; Dr. J. E. Remlinger, Jr., Wilmette, Ill., Secy.

American Society of Clinical Pathologists, Chicago, Nov. 1-8, 1958. Dr. Harry P. Smith, New York, Pres.; Dr. Clyde G. Culbertson, 1040 W. Michigan, Indianapolis 7, Secy.

American Surgical Association, New York, April 16-18, 1958. Dr. John H. Mulholland, New York, Pres.; Dr. William Altemeier, Christian R. Holmes Hospital 19, Cincinnati, Secy.

American Urological Association, New Orleans, April 28-May 1, 1958. Dr. William J. Baker, Chicago, Pres.; Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secy.

Association of American Physicians and Surgeons, San Francisco, April 10-19, 1958. Dr. Cyrus W. Anderson, Denver, Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter. Dr. Curtice Rosser, Dallas, Pres.; Dr. Karl Meyer, 1516 Lake Shore Dr., Chicago, Secy.

Radiological Society of North America. Dr. C. Edgar Virden, Kansas City, Pres.; Dr. Donald S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association, New Orleans, Nov. 3-6, 1958. Dr. W. Kelly West, Oklahoma City, Pres.; Mr. V. O. Foster, 1020 Empire Bldg., Birmingham 3, Secy.

Southern Surgical Association, Roca Raton, Fla., Dec. 9-11, 1958. Dr. James D. Rives, New Orleans, Pres.; Dr. George G. Finney, 2947 St. Paul, Baltimore, Secy.

Southern Psychiatric Association, Tennessee, October, 1958. Dr. Frank Luton, Nashville, Pres.; Dr. Iverson O. Brownell, Greenville, S. C., Secy.

Southwest Regional Cancer Conference, Fort Worth, September, 1958. Dr. O. J. Wollenman, Jr., Fort Worth, Chm.; Mrs. Ira Frances Ball, 264 W. 11th, Fort Worth, Secy.

Southwestern Medical Association, Tucson, Ariz., Oct. 23-25, 1958. Dr. Louis G. Jekel, Phoenix, Pres.; Dr. Russell L. Deter, 1501 Arizona, El Paso, Secy.

Southwestern Society of Nuclear Medicine, Dallas, April 11-12, 1958. Dr. Jack G. S. Maxfield, Dallas, Pres.; Dr. J. R. Maxfield, Jr., 311 Medical Arts Bldg., Dallas, Secy.

Southwestern Surgical Congress, Houston, March 31-April 2, 1958. Dr. Kenneth C. Sawyer, Denver, Pres.; Dr. C. M. O'Leary, 207 Plaza Court Bldg., Oklahoma City, Secy.

Tri-State Medical Assembly, Shreveport, Sept. 18, 1958. Dr. James Gatline, Camden, Ark., Pres.; Dr. Jason Sanders, Sanders Clinic, Kings Highway, Shreveport, La., Secy.

United States-Mexico Border Public Health Association, Hermosillo, Sonora, Mexico, April, 1958. Malcolm H. Merrill, Berkeley, Calif., Pres.; Dr. Sidney B. Clark, 243 U. S. Court House, El Paso, Secy.

State

Private Clinics and Hospitals Association of Texas, Dallas, Dec. 14-15, 1958. Dr. Joe Shepperd, Burnet, Pres.; Mr. Henry E. Taylor, Medical Arts Building, Dallas, Executive Secy.

Texas Academy of General Practice, San Antonio, Sept. 22-24, 1958. Dr. G. W. Cleveland, Austin, Pres.; Mr. Donald C. Jackson, 1905 N. Lamar, Austin, Executive Secy.

Texas Academy of Internal Medicine, Galveston, Dec. 6-7, 1958. Dr. A. W. Harris, Dallas, Pres.; Dr. Hugo T. Engelhardt, 1216 Main, Houston, Secy. Meetings restricted to members.

Texas Air-Medics Association, Houston, April 20-21, 1958. Dr. W. D. Marrs, Fort Worth, Pres.; Dr. C. F. Miller, P. O. Box 1338, Waco, Secy.

Texas Association of Blood Banks. Dr. C. D. Fitzwilliam, Fort Worth, Pres.; Miss Marjorie Saunders, 3707 Gaston Ave., Dallas, Secy.

Texas Chapter, American Association of Public Health Physicians, Houston, April 20, 1958. Dr. Roy G. Reed, Victoria, Pres.; Dr. A. R. Doane, 410 E. 5th, Austin, Secy.

Texas Chapter, American College of Chest Physicians, Houston, April 20, 1958. Dr. John A. Wiggins, Fort Worth, Pres.; Dr. H. M. Anderson, 224 E. Harris, San Angelo, Secy.

Texas Club of Internists. Dr. Charles M. Darnall, Austin, Pres.; Dr. L. C. Carter, 2600 Procter, Port Arthur, Secy.

Texas Dermatological Society. Dr. Charles D. Stewart, Corpus Christi, Pres.; Dr. E. N. Walsh, 1310 Medical Arts Bldg., Fort Worth, Secy.

Texas Diabetes Association, Houston, April 20, 1958. Dr. H. T. Engelhardt, Houston, Pres.; Dr. Warren W. Moorman, 901 W. Leuda, Fort Worth, Secy.

Texas Division, American Cancer Society. Dr. J. Layton Cochran, San Antonio, Pres.; Mr. Curt W. Reimann, 5014 Bull Creek Rd., Austin 3, Executive Director.

Texas Geriatrics Society, Houston, April 21, 1958. Dr. Martin S. Buehler, Dallas, Pres.; Dr. J. A. Armstrong, 3810 Swiss Ave., Dallas, Secy.

Texas Heart Association, Houston, April 20, 1958. Dr. James A. Greene, Houston, Pres.; Mr. Edgar M. Brown, 404 Jesse H. Jones Library Bldg., Texas Medical Center, Houston 25, Executive Director.

Texas Hospital Association, Dallas, May 5-8, 1958. Bolton Boone, D.D., Dallas, Pres.; Mr. O. Ray Hurst, Executive Director, 2208 Main, Dallas, Secy.

Texas Industrial Medical Association, Houston, April 20, 1958. Dr. Robert J. Potts, Houston, Pres.; Dr. Robert A. Wise, Box 2180, Houston, Secy.

Texas Neurophychiatric Association. Dr. Bruce H. Beard, Fort Worth, Pres.; Dr. Clarence S. Hoekstra, 8215 Westchester Drive, Dallas, Secy.

Texas Ophthalmological Association, Houston, April 22, 1958. Dr. Thomas J. Vanzant, Houston, Pres.; Dr. Louis Daily, Medical Arts Bldg., Dallas, Secy.

Texas Orthopedic Association, Houston, April 21, 1958. Dr. Margaret Watkins, Dallas, Pres.; Dr. B. C. Halley, Jr., 524 Doctors Building, Dallas, Secy.

Texas Pediatric Society, Fort Worth, October, 1958. Dr. T. J. McElhenney, Austin, Pres.; Dr. James N. Walker, 5216 W. Freeway, Fort Worth, Secy.

Texas Physical Medicine and Rehabilitation Society, Houston, April, 1958. Dr. Odon F. von Werssowetz, Gonzales, Pres.; Dr. Edward M. Krusen, Baylor Hospital, Dallas, Secy.

Texas Rheumatism Association. Dr. W. W. Bondurant, San Antonio, Pres.; Dr. Morris Horn, 3707 Gaston, Dallas, Secy.

Texas Society for Mental Health, Houston, March 22-24, 1958. Dr. Virginia Love, Houston, Pres.; Mr. John Lane, 2510 San Antonio, Austin, Executive Director.

Texas Society of Anesthesiologists, Houston, April 20, 1958. Dr. J. D. McCulley, Houston, Pres.; Dr. Randle J. Brady, 3317 Binz, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists, Houston, April 20, 1958. Dr. Tate Miller, Dallas, Pres.; Dr. O. P. Griffin, 1101 Medical Arts Bldg., Fort Worth, Secy.

Texas Society of Ophthalmology and Otolaryngology, Houston, Dec. 5-6, 1958. Dr. Owen R. O'Neill, Paris, Pres.; Dr. Edwin G. Grafton, 4319 Oak Lawn, Dallas, Secy.

Texas Society of Plastic Surgeons, Houston, April 19, 1958. Dr. Truman G. Blocker, Galveston, Pres.; Dr. Steve R. Lewis, University of Texas Medical Branch, Galveston, Secy.

Texas Surgical Society, El Paso, April 6-7, 1958. Dr. J. Peyton Barnes, Houston, Pres.; Dr. G. V. Brindley, Jr., Scott and White Clinic, Temple, Secy.

Texas Traumatic Surgical Society, Houston, April 20, 1958. Dr. Russell Holt, El Paso, Pres.; Dr. W. E. Crump, 1300 Eighth, Wichita Falls, Secy.

Texas Tuberculosis Association, Houston, March 27-29, 1958. Dr. Howard T. Barkley, Houston, Pres.; Miss Pansy Nichols, P. O. Box 6158, Austin 21, Executive Director.

Texas Urological Society. Dr. Jack Crow, Abilene, Pres.; Dr. Ian Thompson, John Sealy Hospital, Galveston, Secy.

District

Second District Society, Lamesa, Spring, 1958. Dr. J. Vernon McKay, Lamesa, Pres.; Dr. Noble L. Rumbo, Box D, O'Donnell, Secy.

Third District Society, Amarillo, April 5, 1958. Dr. William Klingensmith, Amarillo, Pres.; Dr. H. Fred Johnson, 2308 W. Eighth, Amarillo, Secy.

Fourth District Society, San Angelo, 1958. Dr. Fred D. Spencer, Brownwood, Pres.; Dr. W. Lacey Smith, 111 E. Harris, San Angelo, Secy.

Fifth and Sixth Districts Society, Corpus Christi, 1958. Dr. Foy Moody, Corpus Christi, Pres.; Dr. Thelma Frank, 129 Rainbow Lane, Corpus Christi, Secy.

Seventh District Society. Dr. Robert N. Snider, Austin, Pres.; Dr. Richard Lucas, 502 W. 13, Austin, Secy.

Eighth District Society, Galveston, October, 1958. Dr. John H. Childers, Galveston, Pres.; Dr. M. Warren Hardwick, 839 E. Mulberry, Angleton, Secy.

Ninth District Society, Conroe, March 6, 1958. Dr. Eugene M. Addison, Huntsville, Pres.; Dr. James H. Sammons, Highlands, Secy.

Tenth District Society. Dr. B. F. Pace, Beaumont, Pres.; Dr. W. J. Poshataske, Silsbee, Secy.

Eleventh District Society. Dr. George M. Hilliard, Jacksonville, Pres.; Dr. Phillip W. Taylor, 833 S. Beckham, Tyler, Secy.

Thirteenth District Society, Abilene, 1958. Dr. Roy Wilson, Seymour, Pres.; Dr. R. D. Moreton, 1217 W. Cannon, Fort Worth, Secy.

Fifteenth District Society. Dr. Charles Wise, Naples, Pres.; Dr. George Bennett, 402 S. Bolivar, Marshall, Secy.

Clinics

Blackford Memorial Cancer Lectures. Dr. R. G. Gerard, 509 S. Mirick, Denison, Chm.

Dallas Southern Clinical Society, Dallas, March 24-27, 1958. Dr. C. D. Bussey, Dallas, Pres.; Executive Offices, 433 Medical Arts Bldg., Dallas 1.

New Orleans Graduate Medical Assembly, New Orleans, March 3-6, 1958. Dr. Eugene H. Countiss, New Orleans, Pres.; Dr. Maurice E. St. Martin, 1430 Tulane Ave., New Orleans 12, Secy.

North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls, Oct. 18, 1958. Dr. J. B. Hathorn, Jr., 1500 8th, Wichita Falls, Chm.

Oklahoma City Clinical Society Conference, Oklahoma City, Oct. 27-29, 1958. Dr. Herman Fagin, Oklahoma City, Pres.; Miss Alma F. O'Donnell, 503 Medical Arts Bldg., Oklahoma City 2, Executive Secy.

Postgraduate Medical Assembly of South Texas, Houston, July 21-23, 1958. Dr. Charles D. Reece, Pres.; Dr. C. Forrest Jorns, Secy., Exec. Office, 412 Jesse Jones Library Bldg., Houston 25.

State Tumor Conference, Wichita Falls, April 12, 1958. Dr. Edwin C. Bebb, 500 Broad St., Wichita Falls, Director.

Board Examinations

Texas State Board of Examiners in Basic Sciences, April, 1958. Henry B. Hardt, Ph.D., Fort Worth, Pres.; Mrs. Betty J. Ratliff, Chief Clerk, 303 East Seventh, Austin.

Texas State Board of Medical Examiners, Fort Worth, June 23-25. Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth, Secy; Miss Luanna Knox, Assistant Secy.

MEDICOLEGAL NOTES

Malpractice and Workmen's Compensation Laws

There has been from time to time some misunderstanding and confusion resulting in cases in which an action for malpractice is instigated against a physician concerning his treatment when the patient has collected for his initial injury under the workmen's compensation laws. This confusion is caused by the fact that in some states the application for or the receipt of workmen's compensation acts as a bar to any subsequent malpractice action growing out of the treatment of the injury covered by the workmen's compensation.

Some of the states take the position that if an employee sustains an injury during the course of his employment and makes a claim against his employer under the Workmen's Compensation Act, thereby receiving compensation for his injuries or loss of earning capacity, he is precluded thereby from a recovery in a subsequent malpractice action which he may institute against the physician who attended him. This line of reasoning is supported by citing such cases as Paine v. Wyatt* (1933), in which the court stated:

> We deem it clear that the plaintiff, having resorted to the remedy provided by the Workmen's Compensation Act, is banned by its terms; that by such proceeding he fixed the status as between himself and the surgeon; that his recovery of compensation in the proceeding worked a satisfaction of any claim against the surgeon.

In Texas, however, the above line of reasoning is not followed. The fact that the injured employee either has made a claim under the workmen's compensation laws or actually has received compensation for his claim does not bar a subsequent action against the attending physician for malpractice.

A case in point is Pedigo & Pedigo v. Croom (1931),† in which the injured employee sued the attending physician to recover damages for malpractice in the treatment of a broken leg. The court, in its opinion upon appeal, stated:

> In their motion for a new trial in the court below appellants *(the physicians)* (our insert) set up that, since the trial they had learned that appellee (the patient) had been paid damages under the Compensation Law. . . . It is insisted here that the settlement made by the appellee (patient) with the Texas Employers' Insurance Association, together with the release executed upon final payment, constitute a bar to any recovery against appellants (the physicians). The authorities from other jurisdictions relied on by appellants seem to support the contention, *but that question has been definitely resolved by our courts in favor of an employee's right to maintain a suit against a third person whose negligence caused his injury, even though he had first proceeded under the Compensation Law* (italics ours).

Also in the case of Hoffman v. Houston Clinic (1931),‡ the court held that the payment of compensation by the employer's insurer for the loss of the employee's eye did not bar recovery of additional damages from the physician if he had negligently treated the eye. In this case the court held:

> The fact that the United States Fidelity & Guaranty Company, the insurer of appellant's employer, had, under the provisions of the Workmen's Compensation Law, paid appellant the full sum allowed by such law for the loss of his eye, would not bar him from a recovery for damages suffered by him in excess of compensation allowed by law which were inflicted upon him by a third party, that is, a party who was neither his employer, nor an agent, servant, or employee of such employer.

As can be seen by the cited cases, even though there is a conflict in the holdings, reasoning, and results rendered in different states, the issue has been resolved in Texas, to the effect that even though workmen's compensation is involved, it will not effect or act as a bar to the patient's bringing an action for malpractice against the attending physician.

—PHILIP R. OVERTON, LL.B., Austin.

*217 Iowa 1147, 251 N.W. 78.
†37 S.W. (2d) 1974.
‡41 S.W. (2d) 134.

Druggists Urged to Cease Taking Oral Prescriptions on Hard Narcotics

Pharmacists are being urged to comply with the federal laws relating to taking telephoned prescriptions for hard narcotics and nonaddictive narcotic compounds in an article appearing in the January issue of the *Texas Druggist.*

"With the supply of hard narcotics difficult to obtain through illicit channels by the addict, he is resorting to the use of ruses on the pharmacist, the physician and the gun to sustain his habit," wrote Ernest M. Gentry, district supervisor, United States Bureau of Narcotics, Dallas.

Mr. Gentry's agents are now engaged in a statewide drive to terminate the taking of telephoned prescriptions from the physician to the pharmacist which has to do with any straight narcotic. Telephoned prescriptions are permitted in cases of emergency, provided the pharmacist secures the signed written prescription from the physician prior to the delivery of the narcotic drugs. The narcotic law is very specific on the subject of what narcotic compounds may be prescribed orally by the physician over the telephone, said Mr. Gentry. The law prohibits telephone prescriptions for (1) morphine or other phenanthrene alkaloids of opium with certain specifically listed exceptions, (2) opium either as such or in preparations, (3) cocaine or ecognine or their salts either as such or in preparations, and (4) demerol, methadone, dromoran, or other synthetic narcotics, covered by proclamations under the Opium Acts, either as straight drugs or in the forms of their salts or preparations.

Both the pharmacist and the physician are in violation of the law if a signed written prescription is not used to obtain a hard narcotic drug prior to the delivery of the drug to the patient, stated Mr. Gentry.

Personal Injury Problems and Medicolegal Trial Technique

The Law-Science Institute of the University of Texas, the Law-Science Academy, and the Law-Science Foundation announce their first combined program on personal injury problems and medicolegal trial technique to be presented February 3-8 in Galveston.

Included in the list of more than 90 distinguished lecturers are the following physicians: Dr. A. Earl Walker, Baltimore; Dr. James C. White, Boston; Dr. Milton Helpern, New York; Dr. M. S. Schulzinger, Cincinnati; Dr. Paul C. Williams, Dallas; Dr. Arthur Grollman, Dallas; Dr. E. H. Parsons, St. Louis; and Dr. Herbert C. Modlin, Topeka.

A one day special program for physicians will be pre-

sented Friday, February 7, on "Law-Science Problems of the Practicing Physician" with particular stress on "Rights of Compensation" and "The Doctor in Court." Physicians attending this session will be eligible to register for any days of the meeting.

The program will consist of nine clinical courses on February 3 and 4, Law-Science Academy and Foundation Day on February 5, and short courses to conclude the meeting. The short courses for February 6, 7, and 8 will be divided into four sections, "Medicolegal Aspects of Surgical Orthopedic Injuries," "Medicolegal Aspects of Injuries of the Nervous System," "Functional Dissection of Personal Injury Problems and Advanced Medicolegal Trial Techniques," and the previously mentioned program specially for physicians.

There is a registration fee, depending on the part of the program registered for, and the amount of the fee and other information concerning the program are available from Dr. Hubert Winston Smith, director, Law-Science Institute, School of Law, University of Texas, Austin 12.

New Medicolegal Booklet Available

A booklet entitled "Medicolegal Forms with Legal Analysis" has been released by the American Medical Association for distribution among physician members upon request. Copies are available to attorneys, hospitals, and other interested persons at a cost of $1 per copy from the AMA, 535 North Dearborn, Chicago.

EDUCATION

Postgraduate Courses

Pediatrics, Galveston, February 13-15, 1958.—Phases of pediatrics will be discussed at the University of Texas Medical Branch. The postgraduate course has a 15 hour credit rating for members of the Texas Academy of General Practice. Tuition fee will be $15.

College of Medical Evangelists, Los Angeles, February 25-27.—The twenty-sixth annual Alumni Postgraduate Medical Convention of the College of Medical Evangelists will begin a three day program February 25 at Los Angeles, with 10 nationally known physicians and 3 attorneys as guest speakers. Preceding the scientific assembly will be a two day series of refresher courses, both of which are open to all physicians. Details may be obtained by writing to the college, 1720 Brooklyn Avenue, Los Angeles.

New York University-Bellevue Medical Center, New York, February.—The New York University-Bellevue Medical Center's Post-Graduate Medical School will offer postgraduate courses to be given or started during the month of February, 1958, in the Departments of Medicine, Dermatology and Syphilology, Orthopedic Surgery, Ophthalmology, Radiology, Pediatrics, and Otorhinolaryngology. Further information is available from the associate dean of the school, 550 First Avenue, New York 16.

Diseases of the Chest, Philadelphia, March 3-7. — The American College of Chest Physicians' Council on Postgraduate Medical Education will sponsor its eleventh annual postgraduate course on diseases of the chest in Philadelphia, March 3-7, 1958. The most recent advances in the diagnosis and treatment of chest diseases, both medical and surgical, will be presented. The tuition fee is $75 including round table luncheons. Further information may be obtained by writing to the executive director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11.

Cardiac, Pulmonary, and Vascular Diseases, Temple, March 3-5.—The Temple Division of the University of Texas Postgraduate School of Medicine will emphasize cardiac, pulmonary, and vascular diseases at its sixth Medical and Surgical Conference to be sponsored by Scott, Sherwood, and Brindley Foundation and presented by members of the staff of Scott and White Clinic. Registration forms are available from the Office of the Assistant Dean, University of Texas Postgraduate School of Medicine, Temple Division, Temple.

The University of Colorado Medical Center, Denver, March 13-15, 1958.—Postgraduate courses will be devoted to the basic considerations and clinical applications of kidney function, edema, and diuresis. Guest speakers participating in the conference include Dr. S. Howard Armstrong, Jr., Chicago; Dr. Russell R. deAlvarez, Seattle; Dr. John H. Moyer, Philadelphia; Dr. George C. Schreiner, Washington, D. C.; and Arnold V. Wolf, Ph.D., Washington, D. C. Information may be obtained from Office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 East Ninth, Denver 20.

New York University-Bellevue Medical Center's Post-Graduate Medical School, March, 1958. — Postgraduate courses will be available during the month of March in the following departments: anatomy, anesthesiology, medicine, neurosurgery, ophthalmology, orthopedic surgery, otorhinolaryngology, pathology, pediatrics, physical medicine, rehabilitation, and surgery. For further information write: Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16.

Trauma, Chicago, April 16-19.—This course will be sponsored by the Chicago Committee on Trauma of the American College of Surgeons. All phases of trauma will be discussed by outstanding teachers from five medical schools, chiefs of services of leading hospitals in the Chicago area, and guest speakers from other parts of the country. Registration fee is $50. Further information may be obtained by writing Dr. Sam W. Banks, 104 S. Michigan Avenue, Chicago 3.

Venereal Diseases, Houston, April 23-25.—The twenty-seventh annual Venereal Disease Postgraduate Conference will be sponsored by the United States Public Health Service and Texas State Department of Health in cooperation with the Texas Medical Association. A review of the latest developments in diagnosis, treatment, and management of venereal diseases will be given by national authorities in the field. Twenty hours of credit will be certified for those of the Academy of General Practice in attendance, and a registration fee of $5 is required for those desiring certification. There is no tuition fee for others attending.

Industrial Health Course Offered

The Institute of Industrial Health of the University of Cincinnati will offer a course in industrial health, for registered nurses only, for the fourth consecutive year during the week of February 3, 1958. The staff of the institute and selected guest instructors will compose the faculty, headed by Dr. Robert Kehoe. The objective of the course is to assist in the development of the administrative abilities of the industrial nurse, and to provide the nurse with current concepts and practices in the field of occupational health.

Grant Awarded Baylor Medical School

The Department of Ophthalmology of Baylor University College of Medicine was awarded a $15,000 grant from the Knights Templar Eye Foundation, Inc., for eye disease research.

Loans Available for Chest Study

The Resident Loan Fund of the American College of Chest Physicians is available for continued study in the specialty of chest diseases. Any physician who has completed an internship of one year or more in an acceptable hospital may apply on an application form furnished by the college. The purpose of the fund is to stimulate interest in postgraduate study of chest diseases and to assist worthy postgraduate students in continuation of study in the specialty.

The total amount of loan to any one student in any one year shall not exceed $1,000. The loan shall be made on monthly basis of $80 for 11 months and $120 for the twelfth month. Not more than $3,000 shall be loaned to any one student. For a period of not more than three years after the date of the first loan advance, neither principal nor interest need be repaid on the loan provided the student shall continue his studies in postgraduate education in diseases of the chest. Further information can be obtained by writing Dr. W. J. Stork, 816 Medical Towers, Houston 25.

Society for Crippled Children Offers 20 Fellowships

The National Society for Crippled Children and Adults is sponsoring 20 fellowship awards each totaling $300 for specialized study for counselors working with children and adults having cerebral palsy and other physical handicaps. The deadline for receiving applications is March 15.

The fellowships cover four weeks' specialized training, June 16-July 11, at the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center. The fellowships will be made on the basis of an evaluation of candidates with the highest qualifications who are working for schools, agencies, business, or industry who are able to make a contribution toward effective counseling and placement for the handicapped.

Application blanks may be obtained from the Personnel and Training Service, the National Society for Crippled Children and Adults, 11 South LaSalle Street, Chicago 3.

Heart Disease Symposium to Be Held

A one-day symposium on atherosclerosis and arteriosclerotic heart disease will be given by the Fort Worth Heart Association on February 23 at the Fort Worth Academy of Medicine in Fort Worth.

1958 Schering Award Open to Medical Students

A total of $5,700 in cash prizes, plus many honorable mention prizes, will be awarded to winners in the 1958 Schering Award competition sponsored by the Schering Corporation. The contest is open to medical students in the United States and Canada for the best manuscripts written about clinical research developments.

The award is designed to encourage medical student interest and activity in the field of medical communications. In addition to first and second prizes of $1,000 and $500 respectively in each of three categories, nine new cash awards will be made for the third, fourth, and fifth best manuscripts in each field.

The following medical subjects have been selected as topics for this year's contest: "The Mechanism and Current Concepts of Treatment of Nausea and Vomiting," "Current Trends in Corticosteroid Therapy in Pediatrics," and "The Uses of Tranquilizer Therapy in Office Practice."

All medical students in accredited medical colleges in the United States and Canada are eligible to participate. Entry blanks and contest rules are available in all medical schools.

TB Topics: How Long Chemotherapy In Treating Active Tuberculosis

The question of how long combined drugs should be used in treating tuberculosis is often raised. No hard and fast rule applies in this question. Once drugs are started they should be continued for at least a year without interruption. Some cases require treatment for 2 years.

Interruptions in treatment may result in the premature emergence of drug resistant strains of the tuberculosis organism. In any event the continued use of drugs in the face of drug resistant organisms usually is a worthless procedure.

Often the patient's sputum will become negative for acid-fast bacilli rather soon after treatment is started. This situation is often misleading, and the doctor should not be lured into a false sense of security. He should bear in mind that he is trying to "sterilize" the entire lesion in the lung and that this may require considerable additional time.

If, after approximately 18 months of drugs, the patient is apparently well, his roentgenograms show a healed or healing lesion, and his *sputum cultures are consistently negative* for mycobacterium tuberculosis, then the doctor should consider stopping drug therapy.

—Committee on Tuberculosis,
Texas Medical Association.

Doctors Warn of Pitfalls With Cardiovascular Patient

A symposium sponsored recently by the postgraduate division of Stuyvesant Polyclinic and the American College of Angiology at the New York Academy of Medicine stressed the numerous pitfalls and problems in the rehabilitation of a cardiovascular patient.

Clinicians cautioned against physicians tending to treat the disease rather than the patient, their failure to recognize the value of long term anticoagulant therapy, their failure to evaluate the serious hazards resulting from constipation, their failure to evaluate the psychologic stress imposed on the patient by business and interpersonal relationships, and dangers arising from mistakes in diagnoses.

AMEF to Launch Fund Raising Drive

The American Medical Education Foundation's 1958 fund raising drive for the nation's medical schools will begin January 25-26 at a meeting for state chairmen in Chicago.

The meeting will be devoted to a discussion of ideas for the further development of American Medical Education Foundation campaigns during the year. Work kits will be distributed to state chairmen along with samples of materials used by various state committees.

New officers for the foundation include Dr. George F. Lull, New York, president; Dr. F. J. L. Blasingame, Wharton, vice-president; and Dr. Edward L. Turner, Chicago, secretary.

Parkinson's Disease Discussed

Chemopallidectomy, designed to suppress the tremors and rigidity which are the major crippling effects of Parkinson's disease, was discussed at the opening session of the fourth annual Graduate Symposium on Geriatric Medicine in New York in November.

Doctors attending the meeting learned through a panel discussion that many people with the disabling effects of Parkinsonism are being returned to normal life by chemopallidectomy, a procedure that combines brain surgery with the use of alcohol injections. The session was sponsored by the American Geriatrics Society and the American Academy of General Practice under a grant from the Schering Corporation, Bloomfield, N. J.

The panel reported that in operations performed during the past year, 85 per cent of the patients showed marked improvement—15 per cent higher than the figure the past year. Doctors were shown that the ability to perform such everyday functions as dressing, eating, and walking was returned to the patients operated upon where as a test group of patients not operated upon experienced progressive loss of the ability to function normally and to work.

MEDICAL MEETINGS

Two Groups Combine For Spring Conference

The Dallas Southern Clinical Society and American Academy of General Practice will hold the twenty-seventh annual Spring Clinical Conference and Assembly March 24-27, 1958, in Dallas.

Guest speakers will include Dr. Daniel Blain, Washington, D. C., psychiatry; Dr. Maurice E. Bryant, Colfax, Texas, obstetrics; Dr. Conrad G. Collins, New Orleans, obstetrics-gynecology; Dr. George A. Constant, Victoria, psychiatry; Dr. Willard Cooke, Galveston, obstetrics-gynecology; Dr. E. Grey Dimond, Kansas City, internal medicine; Dr. Milton H. Erickson, Phoenix, psychiatry; Dr. Everett C. Fox, Dallas, dermatology; Dr. Nicholas J. Giannestras, Cincinnati, orthopedics; Dr. G. A. Hallenbeck, Rochester, Minn., surgery; Dr. Edward H. Hashinger, Kansas City, internal medicine; William T. Herron, Ph.D., Minneapolis; Dr. Dan Higbee, Denver, urology; Dr. Willis Hurst, Atlanta, internal medicine; Dr. Robert J. Johnston, Houston, obstetrics-gynecology; and Dr. Sol Katz, Washington, D. C., internal medicine.

Others participating will be Dr. Lloyd G. Lewis, Washington, D. C., urology; Dr. Manuel E. Lichtenstein, Chicago, surgery; Dr. Bruce Logue, Atlanta, internal medicine; Dr. Michael L. Mason, Chicago, surgery; Dr. Frank H. Mayfield, Cincinnati, surgery; Dr. Malcolm A. McCannell, Minneapolis, ophthalmology; Dr. Harrison L. McLaughlin, New York, surgery; Dr. Erwin Netar, Buffalo, pediatrics; Dr. Anthony V. Pisciotta, Milwaukee, pediatrics; Dr. Jack Pritchard, Dallas, obstetrics-gynecology; Dr. Leo G. Rigler, Los Angeles, radiology; Dr. Julian M. Ruffin, Durham, internal medicine; Dr. Herbert E. Schmitz, Chicago, obstetrics-gynecology; Dr. Harry Spence, Dallas, urology; Dr. Howard Sprague, Boston, internal medicine; Dr. Andrew S. Tomb, Victoria, general practice; Dr. Theo Walsh, St. Louis, otolaryngology; Dr. Stewart G. Wolf, Jr., Oklahoma City, internal medicine; Dr. John G. Young, Dallas, pediatrics; and Dr. F. D. Zeman, New York, internal medicine.

Registration material may be obtained by writing Dallas Southern Clinical Society, 433 Medical Arts Building, Dallas 1. A list of available hotels may be obtained from the Dallas Chamber of Commerce. Registration fee for all nonmembers of the American Academy of General Practice is $5.

Two Texas Women Physicians Honored

Two Texas women physicians were presented citations at a luncheon honoring the seven outstanding medical women of the year by the American Medical Women's Association at the mid-year meeting of its Board of Directors held in Dallas, November 14-17. They were Dr. Kathleen Carmen Jones, Dallas, formerly a missionary in Indonesia, and Dr. Clara Cook, San Antonio.

The business and scientific sessions were attended by 100 women physicians. Emotional health of the family was the organization's chief theme of the year. Other national and state agencies and organizations participated, including the Future Homemakers of America, whose state advisor discussed what today's teenagers consider necessary for a happy family. The first tapes of American Medical Women's Association radio series were made.

Guest speaker was Dr. Anna M. Hilliard of Toronto, Canada, who spoke on "Women's Enemy—Fatigue." Dr. Ruth Hartgraves, Houston, and Dr. Mary Henry, San Antonio, participated in the program.

WHO Representatives Discuss Mental Health Aspects of Atomic Energy

A study group of the World Health Organization (WHO) met in Geneva in November to discuss certain mental health problems brought about with the advent of the atomic age. Participating in this discussion were representatives in the fields of psychiatry, atomic and radiation medicine, public health, social anthropology, and journalism.

The group found that, in general, irrational fears were expressed far more often than irrational hopes. The representatives believed that this is true because people were first made aware of radiation as a means for diagnosing or treating tuberculosis and cancer. Then atomic energy was used as a weapon, and this has aroused a sense of fear, reported the group.

International Internists to Meet In America for First Time

The fifth International Congress of Internal Medicine will be held in Philadelphia, April 23-24, 1958. It will be the first meeting of the organization in this country. The purpose of the gathering is to encourage greater participation of the American physicians in the society and to give foreign members a first hand opportunity to learn more about American developments in medical science.

The scientific program will include presentations covering certain newer developments in the prevention, diagnosis, and treatment of disease and an appraisal of clinical experience in various geographic areas. Facilities will be available for visiting various Philadelphia hospitals and other medical institutions.

The official languages will be English, Spanish, French, and German. General inquiries regarding the congress should be addressed to E. R. Loveland, Secretary-General, 4200 Pine Street, Philadelphia 4. Registration must be completed before February 1, 1958.

New Officers Named for Private Clinics and Hospitals Association

At the annual meeting of the Private Clinics and Hospitals Association of Texas held December 14-15 in Dallas the following officers were named: president, Dr. Joe Shepperd, Burnet; president-elect, Dr. Jack Maxfield, Dallas; secretary-treasurer, Mr. Henry E. Taylor, Dallas; and vice-president, Dr. Vance Terrell, Stephenville. Forty-five member hospitals registered for the meeting.

Texas Internists Elect

The Texas Academy of Internal Medicine met December 7 in Houston and elected Dr. Merton M. Minter of San Antonio as president-elect and Dr. George R. Herrmann of Galveston as vice-president. Dr. A. H. Harris, Dallas, succeeded to the presidency.

Medical Library Association Plans June Convention

The fifty-seventh annual meeting of the Medical Library Association will be held June 2-6, 1958, at the Hotel Kahler in Rochester, Minn. "Advances in Medical Library Practice" will be the theme of the convention.

A series of refresher courses in many fields of medical library work are being planned for the meeting. Each participant may take four courses during the day. Each session will be one and a half hours long, an hour for each lecture and a half hour for the discussion period. A panel discussion on what medical specialists expect from the medical library will be a special feature in the program with the panel being made up of members of the Mayo Clinic staff.

A one day trip is being planned to Minneapolis and St. Paul with visits to the University of Minnesota, the James J. Hill Reference Library, and the Ramsey County Medical Library. There will be a symposium on the medical center library and a session on American medical history and medical librarianship.

OF GENERAL INTEREST

Personals

Dr. John V. Goode, clinical professor of surgery, Southwestern Medical School of the University of Texas, Dallas, served as the first visiting professor of surgery at the Piedmont Hospital, Atlanta, during the week of December 3.

Dr. Edward L. Pratt, Dallas, has been elected president of the Society for Pediatric Research.

At the recent meeting of the Central Neuropsychiatric Association *Dr. Hamilton F. Ford,* Galveston, became president-elect.

Dr. Theodore C. Panos, Galveston, has resigned his position as professor of pediatrics at the University of Texas Medical Branch to become chairman of the Department of Pediatrics at the University of Arkansas Medical Center, Little Rock, on February 1.

Dr. Chester E. Cook, associate medical director of Southwestern Life Insurance Company, Dallas, recently has been certified as a diplomate of the Board of Life Insurance Medicine, a training and certifying agency sponsored by the Association of Life Insurance Medical Directors of America.

Dr. Milford O. Rouse, Dallas, was honored at a dinner sponsored by the Dallas County Medical Society in Dallas on November 21, in recognition of his becoming president-elect of the Southern Medical Association recently. More than 100 persons attended.

Dr. Michael E. DeBakey, professor and chairman, Department of Surgery, Baylor University College of Medicine, Houston, will be one of 10 guest speakers at the twenty-sixth annual Alumni Postgraduate Medical Convention of the College of Medical Evangelists in Los Angeles, February 25-27.

Dr. Leslie Pridgen, San Antonio physician, was presented a plaque from the Bexar County Academy of General Practice, honoring him for "50 years of unselfish service."

Dr. J. Layton Cochran, San Antonio, has been elected chief of the medical staff of the Southwest Texas Methodist Hospital.

Dr. and Mrs. Wendell McKiski of San Antonio are the parents of a son.

Millions Without Salk Vaccination

The National Health Survey indicates that 45,000,000 persons under 40 years of age have not received Salk poliomyelitis vaccine. Figures show that 5,000,000 under 40 received one injection, 25,000,000 have received two, and 28,000,000 have received three. The fact that there are still an estimated 15,000,000 children and 30,000,000 adults under 40 with no protection "is a matter of grave concern," states the surgeon general.

Poison Control Center Available to Physicians

A poison control center offering a 24 hour poison information service recently has been established by the University of Texas Medical Branch at Galveston. The center has expanded its operational facilities from a one emergency room service to include all medical facilities of the city and county of Galveston.

The poison information facilities are available to all physicians and personnel hospitals, emergency rooms, and allied medical sciences. This information may be obtained by calling the operator, University of Texas Medical Branch, Galveston, telephone number SO 5-5541. Since the center is maintained by volunteer medical personnel, all telephone charges must be assumed by the person seeking information. A staff or resident physician is available at all times in the center.

Warfarin Said Good Anticoagulant

The new synthetic drug Warfarin (Coumadi) sodium is reported by two groups of researchers to be closer to an "ideal" anticoagulant than any other drug now available. It has a faster and more lasting effect and produces fewer harmful side effects than other anticoagulants, articles in the November 16 *Journal of the American Medical Association* point out.

Warfarin is unique because it is effective when given orally, intravenously, intramuscularly, or rectally, Drs. Shepard Shapiro and Flavio E. Ciferri, New York, state. They found that a single muscular injection provided an effect

lasting as long as 5 days with the peak on the second or third day.

Drs. Rudolph E. Fremont and Benjamin Jagendorf, Brooklyn, N. Y., gave the drug in tablet form to 85 patients. It produced a fairly prompt reaction as well as "relatively well predictable and consistent" effects for longer periods. Warfarin was found rarely to cause excessive depression of the ability of the blood to clot, and in such cases administration of vitamin K quickly counteracted the tendency to hemorrhage.

Conversion Chart for Measurements

A reference chart listing a variety of conversion factors is offered by Precision Equipment Company, 4409B Ravenswood Avenue, Chicago 40. Prepared primarily for the use of engineers, the table includes some information of value to physicians. For example, the chart lists the factors by which ounces should be multiplied to obtain drams, grains, pounds, grams, ounces (troy), tons (long), and tons (metric).

Heart Disease Increase Related to Medical Progress

Asiatic flu may have an appreciable impact on the death rate from heart disease and related conditions, Dr. Louis I. Dublin, health and welfare consultant to the Institute of Life Insurance, New York, has predicted. He said that in the past when influenza has struck on a nationwide scale, it has raised the death rate from cardiovascular disease.

The rising trend of mortality from heart disease was expected to continue for 1957 even if there were no Asiatic flu, said Dr. Dublin whose statements were based on reports for the first 9 months of the year covering millions of life insurance policyholders. Circulatory diseases have for many years constituted the number one killer and now account for more than half of all deaths in the United States, he said.

Dr. Dublin said that the increase of heart and related diseases, from one-fourth of all deaths in 1900 to more than one-half of deaths at present, can be traced to the same progress of medicine and public health. Through the years, a great variety of bacterial diseases have been brought under control, and mortality in the early years of life from these causes has nearly vanished. Thus, huge numbers of people advance to later years of life when heart and related diseases are prevalent.

An estimated 10,000,000 individuals today suffer from some form of cardiovascular-renal diseases, said Dr. Dublin.

New Air Force Hospital

A 150-bed hospital at Syess Air Force Base near Abilene is one of the eight new United States Air Force hospitals constructed during the fiscal year 1957. It is a steel and concrete structure which is expandable to 300 beds under emergency conditions.

The hospital is complete with a 400-ton air conditioning unit for the entire building and an emergency power plant. The outpatient service has two well-equipped waiting rooms with approximately 12 private examining rooms, and surgical, medical, pediatric, prenatal, and postnatal clinics, and immunization centers.

It has never been possible to confine a disease such as tuberculosis to a narrow specialty.—G. J. Wherett, M. D., Canadian J. Pub. H., Nov., 1956.

American College of Physicians Names Fellows, Associates

The American College of Physicians recently named the following eleven Texas physicians as associates of the college: Dr. John Joseph DeLaney, Corpus Christi; Dr. William Otto Tschumy, Jr., Dallas; Dr. Conrad Lowell Kinard and Dr. Hal V. Norgaard, Denton; Dr. Dewey Williams Johnston, Fort Worth; Dr. John Edward Johnson, Jr., Galveston; Dr. Maurice Hardy Murphy, Marshall; Dr. Raleigh William Baird and Dr. Leonard Roy Robbins, Houston; Dr. Norris Adron Wimberly, Jr., Tyler; and Dr. Clinton McKinley Shaw, Jr., Wichita Falls.

Dr. Lawrence Rodney Rodgers, Sr., Houston, and Dr. John Cassius Meadows, Jr., San Antonio, were named fellows of the college.

National House Call Fees

National figures showing which physicians receive the highest fees for house calls and which the lowest were published in the January issue of *Medical Economics*. The article, based on a recent national study of 1,200 doctors' house-call habits made by the magazine, gave the following figures for normal daytime house calls: obstetrician and gynecologist, $8-9; internist, $7-8; pediatrician, $6-7; general surgeon, $6; and general practitioner, $5-6.

The article points out that only in metropolitan and suburban communities do obstetricians and gynecologists report the highest house-call fees. In urban and rural areas, internists head the list.

Doctors Serve on Committee of 75

Several Texas doctors are serving on the Committee of 75 of the University of Texas, citizens whose job it is to survey the University system as a whole, seeking to discover what it should do, what its present status is, and what should be its specific goals for improvement.

The university, observing its seventy-fifth year in 1958, organized the committee to take inventory and make resolutions to apply for the next 25 years. Doctors on the committee include Dr. H. F. Connally, Jr., Waco; Dr. Kleberg Eckhardt, Corpus Christi; Dr. R. W. Kimbro, Cleburne; Dr. L. S. Oates, Center; Dr. Herbert Poyner, Houston; and Dr. William D. Seybold, Houston.

British Report Aspirin Effective in Treating Diabetes

Ignored medical reports of the early twentieth century concerning the effectiveness of aspirin in treating diabetes mellitus may have been accurate, according to an article published in the November issue of the *British Medical Journal*.

Seven diabetic patients given an intensive two-weeks' course of therapy with pure aspirin alone had their blood sugar and urine sugar levels restored to normal, reported a British team. All clinical symptoms of the disease, such as thirst, excessive secretion and discharge of urine, and intense itching were completely relieved, according to the article. All patients had been victims of diabetes for periods ranging from one month to five years. Their age range was from 15 to 65.

Accreditation Institute

Commodore Perry Hotel, Austin

February 20-21, 1958

With the theme of "Improvement of Patient Care Through Accreditation," this first such Institute is being sponsored jointly by the Texas Medical Association, the Texas Hospital Association, and the Private Clinics and Hospitals Association of Texas.

Thursday, February 20

9:00 a. m. *Keynote.*—DR. DENTON KERR, Houston, President, Texas Medical Association.

Medical Staff Organization (Medical Staff Control, Bylaws, Rules and Regulations).—DR. PAUL J. THOMAS, Dallas.

Intermission.

Question and Answer Session.—DR. THOMAS; DR. KENNETH BABCOCK, Chicago, Director, Joint Commission on Accreditation of Hospitals; PHILIP R. OVERTON, Austin, Legal Counsel, Texas Medical Association and Texas Hospital Association.

11:45 a. m. *Luncheon.*

The Importance of Accreditation to You and Your Hospital.—BOLTON BOONE, D.D., Dallas, Administrator, Methodist Hospital, and President, Texas Hospital Association.

1:30 p. m. *Panel Session.*

Advantages of Accreditation.—DR. JOE A. SHEPPERD, Burnet, Administrator, Shepperd Memorial Hospital, and President, Private Clinics and Hospitals Association of Texas.

Obstacles to Be Overcome in Attaining Accreditation.—DR. J. P. ANDERSON, Brady, Brady Hospital.

Shortcomings Most Frequently Found When Making an Accreditation Inspection.—DR. BABCOCK.

Question and Answer Session.—Panel members.

DR. BABCOCK

Friday, February 21

9:00 a. m. *Call to Order.*—DR. LEIGH J. CROZIER, Houston, Director, Hermann Hospital.

Panel Session.

Administration and Physical Plant Aspects in Accreditation.—ALBERT H. SCHEIDT, Dallas, Administrator, Dallas County Hospital District.

Clinical Laboratory Requirements in Accreditation.—DR. CHARLES PELPHREY, Austin, Pathologist, Seton Hospital.

X-Ray Department Requirements in Accreditation.—DR. JOE RUDE, Austin, Radiologist, Brackenridge Hospital.

Nursing Service, Pharmacy, and Dietary Requirements in Accreditation.—DR. HOWARD O. SMITH, Marlin, President-Elect, Texas Medical Association.

Question and Answer Session.—Panel members.

12:00 noon *Luncheon.*

1:30 p. m. *Panel Session.*

Medical Records, A Requisite in Accreditation.—MARY MCREYNOLDS, CRL, Houston, Medical Record Librarian, Veterans Administration Hospital, Moderator.

Medical Record Librarian—Friend or Foe?—MAIFAIR OFFUTT, RRL, Dallas, Medical Record Librarian, Methodist Hospital.

The Role of the Administrator.—MRS. BERTHA LANGENBERG, RRL, San Antonio, Medical Record Librarian, Nix Memorial Hospital.

Planning the Medical Record Department.—MAYBELLE HUDGINS, CRL, Fort Worth, Harris Hospital.

Question and Answer Session.—Panel members.

Physicians Save Time By Piloting Own Airplane

Doctors discovering that they could reach out-of-town patients and travel to medical meetings throughout the country more conveniently than by public transportation organized the Flying Physicians Association in 1955 in Houston. Since that time the organization has grown to total 938 in membership, 35 of which are Texas doctors.

Members in the organization are licensed physicians, members of the American Medical Association, and hold a valid pilot certificate. Objectives of the organization are to promote general aviation safety by example and teaching, to attain more advanced proficiency and knowledge in the operation of aircraft, to stimulate aviation consciousness and acceptance in young men and women, to encourage aviation activity and consciousness within professional ranks, and to cooperate with civilian agencies engaged in the welfare of the country.

Texas members of the association find their airplanes to be useful in various ways. Dr. James Y. Bradfield, a vice-president of the organization from Dallas, says that he uses his airplane in numerous profession activities, including transportation to and from medical conventions and to and from out-of-town consultations.

Another member of the association, Dr. J. E. Miller of Dallas, finds that by piloting his own airplane to and from medical meetings he is freed from public transportation schedules which many times would keep him away from home and his office an extra evening or day. Dr. Miller gave the example of the time he saved by flying his airplane to a recent medical meeting in Austin. He took off at 3 p. m. from Austin after the meeting and arrived in Dallas an hour and five minutes later, some time before commercial transportation was scheduled to have left Austin for Dallas.

Medical Examiners Appointed

Governor Price Daniel recently has reappointed the following physicians to the Texas State Board of Medical Examiners: Dr. J. G. Rodarte, Temple; Dr. D. B. Gardner, Merkel; and Dr. David S. Stayer, Dallas. Garland G. Porter, D. O., Lubbock, was a new appointment.

The Board met December 5-7 in Fort Worth, at which time there were 36 taking the full examination, 14 juniors taking the first half of the examination, and 3 taking the last half. The Board also issued 63 licenses by reciprocity.

Vocational Nurse Examiners Elect

The Board of Vocational Nurse Examiners recently elected Dr. George M. Hilliard, Jacksonville, president to succeed Dr. R. D. Holt of Meridian. Fred R. Higginbotham of San Antonio was elected vice-president and Mrs. Maggie H. Brice, Hallettsville, was re-elected to the office of secretary-treasurer of the Board.

Postoperative Constipation Relief

The drug Senokap can overcome fear of the first bowel movement of patients who have undergone rectal surgery, according to Dr. Thomas R. Peyton, Los Angeles, whose clinical study was reported in the November, 1957, issue of the *Journal of the National Medical Association.*

The doctor's study was based on 78 adult patients, ages 20 to 73 years. Twenty-three of the group studied were operated on for anal disease. "The fear of the first bowel movement is a traditional and historic event in the minds of patients who have undergone rectal surgery," said Dr. Peyton. He found, however, that two doses of Senokap in the evening of the first postoperative day and repeated in the morning of the second postoperative day are effective as an aid to restore proper bowel function. The patient is instructed to continue the use of Senokap daily until regular movements are reestablished, said Dr. Peyton.

Publications by Texas Physicians

Following is a partial list of recent articles published by Texas physicians and available at the Memorial Library of the Texas Medical Association. Articles appearing in the *Texas State Journal of Medicine* are not included. The list will be continued in a subsequent issue.

Abrams, Raymond H.: Double Pregnancy, Obst. & Gynec. 9:435-438 (April) 1957.

Anthony, W. P.: Congenital and Acquired Atresia of External Auditory Canal, Arch. Otolaryng. 65:479-486 (May) 1957.

Anthony, W. P.: Rehabilitation of Nerve Deaf Patient: Binaural-Time-Delary Stimulus, Laryngoscope 67:371-373 (April) 1957.

Armstrong, J. T.; Wills, Seward H.; and Moore, Jack: Ectopic Pregnancy: Review of Cases, South. M. J. 50:587-593 (May) 1957.

Baden, Wayne F., and Baden, E. E.: Cervical Incompetence: Repair During Pregnancy, Am. J. Obst. & Gynec. 74: 241-245 (Aug.) 1957.

Baden, Wayne F.: Staphylococcal and Subsequent Candida Albicans Enterocolitis Complicating Novobiocin Therapy, Am. J. Obst. & Gynec. 74:47-53 (July) 1957.

Beard, Earl F.; Cooley, Denton A.; and Latson, Joseph R.: Combined Congenital Subaortic Stenosis and Infundibular Subpulmonic Stenosis. Arch. Int. Med. 100:647-650 (Oct.) 1957.

Beard, Earl F.; McNamara, Dan G.; and Latson, Joseph: Proper Selection of Physiologic Methods in Study of Congenital and Acquired Heart Disease, South. M. J. 50:605-608 (May) 1957.

Bennett, R. J.: Epilepsy and Its Management, Southwestern Med. 38:695-698 (Nov.) 1957.

Bernard, Jack A.: Rheumatic Fever—Postcommisurotomy Syndrome, Southwestern Med. 38:303 (May) 1957.

Blocker, Truman G.; Levin, William C.; Lewis, Stephen R.; and Blocker, Virginia: Influence of Burn State on Turnover of Serum Proteins in Human Subjects, A.M.A. Arch. Surg. 74:792-799 (May) 1957.

Bloxsom, Allan: Posture Requirements of Newborn Infant, Am. J. Obst. & Gynec. 74:186-189 (July) 1957.

Boelsche, Arr Nell, and Hansen, Arild E.: Factors in Prevention of Cerebral Palsy, South. M. J. 50:1294-1300 (Oct.)1957.

Bornstein, F. P.: Duplication of Large Intestine Associated with Multiple Malformations, A.M.A. Arch. Path. 63: 379-380 (April) 1957.

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GIFTS TO THE LIBRARY

Capt. Rachel Adams, Fort Sam Houston, 1 film.

Bexar County Medical Society, monetary gift in honor of C. Lincoln Williston's mother.

Mrs. Zelda Harris, Lubbock, 1 book.

Dr. Henry L. Hilgartner, Austin, 23 journals; 17 reprints.

Dr. J. Edward Johnson, Austin, 3 pamphlets.

Dr. Sam N. Key, Jr., Austin, 7 journals.

Dr. Tom Linstrum, Elgin, 24 books; 137 journals.

Drs. Allen H. Neighbors and Allen H. Neighbors, Jr., Austin, 103 books; 20 journals.

Philip R. Overton, Austin, 8 journals.

Dr. Albert D. Pattillo, Austin, 39 journals.

Dr. Donald E. Pohl, Austin, 64 journals.

Dr. Morris Polsky, Austin, 7 journals.

Dr. N. L. Schiller, Austin, 32 journals.

Dr. David R. Womack, Austin, 67 journals; reprints.

★ Motion Pictures

The Bladder

Sound, color, 13 minutes, 1956.

This film illustrates the sympathetic, parasympathetic, and somatic motor innervation of the bladder and its sphincters. It also shows how the viscerovisceral parasympathetic reflex arc is concerned with filling and emptying the bladder, the sympathetic control of blood vessels, and the somatic motor control of the external sphincters.

Within Your Hands

Sound, black and white, 18 minutes.

"Within Your Hands" takes a look at the opportunities in one of medicine's younger professions, physical therapy. Classroom theory comes to life as advanced physical therapy students from the University of Connecticut, under careful supervision, begin their work on hospital patients. The film also shows the kinds of careers the trained physical therapist can look forward to—in hospitals, in clinics, in home care services, in the armed forces.

★ Books

Books Newly Acquired

Brown, Ian A.: *Liver-Brain Relationships,* Springfield, Ill., Charles C Thomas, 1957.

Davis, John Eisele: *Recovery from Schizophrenia,* Springfield, Ill., Charles C Thomas, 1957.

Fasanella, R. M.: *Management of Complications in Eye Surgery,* Philadelphia, W. B. Saunders, 1957.

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Keele, K. D., *Anatomies of Pain,* Springfield, Ill., Charles C Thomas, 1957.

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Martin, Hayes: *Surgery of Head and Neck,* New York, Hoeber-Harper, 1957.

Minski, Louis: *Deafness, Mutism and Mental Deficiency in Children,* New York, Philosophical Library, 1957.

Myers, J. Arthur: *Tuberculosis,* Springfield, Ill., Charles C Thomas, 1957.

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Natelson, Samuel: *Microtechniques of Clinical Chemistry for the Routine Laboratory,* Springfield, Ill., Charles C Thomas, 1957.

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Skottowe, Ian: *Mental Health Handbook,* London, Edward Arnold, 1957.

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Strauss, Bert and Frances: *New Ways to Better Meetings,* New York, Viking Press, 1957.

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Year Book of General Surgery, 1956-1957, Chicago, Year Book Publishing Co., 1957.

Van Bogaert, L.: *Cerebral Lipidoses,* Springfield, Ill., Charles C Thomas, 1957.

White, Paul Dudley: *Cardiovascular Rehabilitation,* New York, Blakiston Division, 1957.

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Wolberg, Lewis R.: *Medical Hypnosis,* 2 vols., New York, Grune & Stratton, 1948.

Book Notes

Anesthesia in Ophthalmology

WALTER S. ATKINSON, M.D., Associate Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School, House of the Good Samaritan, Watertown, N. Y. 101 pages. $3.25. Springfield, Ill., Charles C Thomas, 1955.

This monograph was prepared with the surgeon in mind. More emphasis is placed on local anesthesia since most eye operations, according to the author, can be done safely with local anesthesia. General anesthesia is mentioned as an alternative for those who object to local anesthesia or for children or extensive ocular surgery.

The author uses procaine, tetracaine ormlidocaine, and ordinary standard equipment. The required techniques are adequately discussed and the psychological preparation of the patient timely and well chosen. The illustrations are good and the complications of the drugs stressed with humorous examples.

This monograph should be useful and of interest to those practicing, preparing to practice, or teaching ophthalmology.

Progress in Gynecology (Volume III)

JOE V. MEIGS, M.D., Clinical Professor of Gynecology, Harvard Medical School; Visiting Consulting Surgeon, Massachusetts General Hospital; Visiting Consulting Gynecologist, Vincent Memorial Hospital; Surgeon, Pondville Hospital; Gynecologist, Palmer Memorial Hospital, Boston, and SOMERS H. STURGIS, M.D., Clinical Professor of Gynecology, Harvard Medical School; Surgeon (Gynecology) and Head of Department, Peter Bent Brigham Hospital, Boston, editors. 780 pages. $15.50. New York, Grune & Stratton, 1957.

This, the third of a very popular series on progress in gynecology, again follows the same general outline of the first two volumes. It is not, however, just a rehash of material covered in previous editions as such series are so wont to be.

The first volume was brought out after World War II and was admittedly intended primarily as a refresher and a quick review for men returning from service. It was composed of sections written by various world authorities on subjects that were their own pet hobbies. The editors made no attempt to color the individual author's opinions. The book was met with such enthusiasm that material that had been skimmed over or deleted was brought up to date and published in the second volume.

In the present volume, the editors have followed their policy of not repeating sound articles found in the first two volumes but have chosen material that is new or that has made the most progress in the last five years. They have again asked individual writers who have shown particular interest in a particular field to express their opinions and furnish their references.

Each section is prefaced by what has been omitted from previous volumes and, in addition, complete tables of contents are given. Reference to another work of Dr. Meigs—"Surgical Treatment of Cancer of the Cervix"—is also made. This in itself is a monumental piece of work. The section on anatomy is outstanding.

These four works together then express most of the important advances made in gynecology since World War II. They provide in effect a most excellent review of the world literature in a very compact and easily read form.

—Fred W. Bone, M.D., Dallas.

Current Surgical Management; A Book of Alternative Viewpoints on Controversial Surgical Problems

JOHN H. MULHOLLAND, M.D., Editor-In-Chief, New York University College of Medicine; EDWIN H. ELLISON, M.D., Ohio State University College of Medicine; STANLEY R. FRIESEN, M.D., University of Kansas Medical Center, editors; with contributions by 76 American authorities. 494 pages. $10. Philadelphia, W. B. Saunders Company, 1957.

The surgeon of today chooses to think for himself. No longer does he turn to the teaching of a noted surgical authority to determine the handling of an operative disease. Each patient is an individual problem, and the consideration given timing, technique, and extent of operation brings much controversy.

This book deals with many of the controversial problems of surgery expressed by 76 American authorities in concise opinions well taken. The spirit of friendly argument among these outstanding men is as informative and stimulating as the panel discussions which have become so popular at medical and surgical gatherings. Problems ranging from the early operative treatment or nonoperative management of appendicitis with generalized peritonitis and the proper approach for the repair of sliding inguinal hernia to the choice of partial or radical resection for carcinoma of the stomach are carefully discussed. Each controversial subject has an able champion.

Drs. Mulholland, Ellison, and Friesen have added greatly to each section by brief introductions which relate forethoughts regarding the controversies, enabling the reader to do some independent thinking. We are reminded that all things surgical are not yet known. The arguments are extremely well presented. All surgeons will like this book.

—Tom B. Reagan, M.D., Beeville.

A Dermatologist's Handbook

ASHTON L. WELSH, M.S., M.D., Assistant Professor of Dermatology and Syphilology, University of Cincinnati College of Medicine, Cincinnati, Ohio. 427 pages. $15. Springfield, Ill., Charles C Thomas, 1957.

This new book offers a modest number of "old favorite" dermatologic prescriptions, plus a tremendous collection of medications chiefly internal, and an accompanying index of the drug manufacturers. The drugs are well organized into groups of related agents such as gastrointestional agents, topical remedies, cardiovascular agents, and the like. There is a brief description of each drug similar to that provided in the "National Formulary."

A glance at the table of contents reveals that much of the book is devoted to descriptions of drugs related only remotely to dermatology. These prescriptions are well covered in the "Physicians Desk Reference" and other similar books which are completely revised yearly.

The dermatologic prescriptions are well chosen, but more detailed indications for their use would be helpful. Adequate warning of possible sensitivity is not given in many cases. Ammoniated mercury and penicillin ointment descriptions, for example, carry no warning of their high incidence of sensitivity. Not all of the drugs for internal use have adequate warning of their potential dangers. This may lull some into a false sense of security in the use of these drugs.

Seven pages are used to list the plant extracts used by allergists in scratch and intradermal tests, but no mention is made of patch tests or their techniques which are used far more frequently by dermatologists. A long chapter on prescriptions writing with heavy emphasis on Latin and the Apothecaries system is included. The index is adequate if the name of the drug is known, but names of the diseases are not listed and cross-indexed for easy reference.

In spite of its shortcomings, this book contains a wealth of assorted information under one cover.

—W. R. Hubler, M.D., Corpus Christi.

Human Blood Coagulation and Its Disorders

ROSEMARY BIGGS, B.Sc. (Lond.), Ph.D. (Toronto), M.D. (Lond.), Graduate Assistant in the Department of Pathology, Radcliffe Infirmary, Oxford, and R. G. MACFARLANE, M.A. (Oxon.), M.D. (Lond.), F.R.S., Clinical Pathologist to the Radcliffe Infirmary, Oxford; Radcliffe Lecturer in Haematology, University of Oxford. 476 pages. $8.50. Ed. 2. Springfield, Charles C Thomas, 1957.

Drs. Biggs and Macfarlane have done an excellent piece of work in elucidating the complex subject of blood coagulation. Their book is divided into two parts, the first of which covers the theories of coagulation, breaks down each phase to its simplest terms, and differentiates between that which is pure theory and that which can be proved.

The second portion of the book includes the disorders of blood coagulation. In it the authors describe in clear terms the various clinical states and tie them to the theory, experimental work, and laboratory tests.

In addition to commenting on bleeding states, the authors make concise and understandable remarks relative to throm-

bosis and rightfully stress the importance of this more common disease entity.

A chapter on the significance of blood coagulation attempts to correlate coagulation to hemostasis, to wound healing and bacterial infection, and to other functions of the blood. In this chapter the complexity of blood coagulation is stressed and the importance of further knowledge and study appreciated.

There is an extensive appendix divided into four parts: A, glossary of terms; B, the systematic investigation of coagulation defects (most useful chapter); C, preparation of reagents and coagulation factors; and D, technical methods.

It is my opinion that Drs. Biggs and Macfarlane have written an excellent treatise, which will be welcomed by internists, hematologists, and clinical pathologists.

—Martin A. Zionts, M.D., Houston.

An Approach to General Practice

R. J. F. H. PINSENT, M.A., M.D. (Cantab.), with a foreword by Sir Lionel Whitby, C.V.O., M.C., Regius Professor of Physic, University of Cambridge 166 pages. $3.50. Edinburgh and London, E. & S. Livingstone, Ltd., 1953.

The author wrote this book primarily for medical students and interns who are about to go into general practice in England and Wales. It has very little practical application for general practitioners in the United States. It is interesting, however, to note the degree of regimentation that is now the rule for the medical profession in England, as well as the large amount of government forms with which the doctor has to contend. A prime example is the tobacco certificate for old age pensioners certified as being heavy smokers.

—John R. Archer, M.D., Amarillo.

Physician's Federal Income Tax Guide, 1958 Edition

HUGH CAMPBELL and JAMES B. LIBERMAN, edited by HENRY D. SHEREFF. $2.50. Great Neck, N. Y., Channel Press, 1958.

★ American Medical Association

Texas Delegates Report On AMA House Actions

The Texas Delegates in the House of Delegates of the American Medical Association, at the clinical session in Philadelphia, December 3-6, report an unusually harmonious time, with consideration of some matters that will have a more far-reaching effect than probably was recognized at the time.

The so-called Heller Report on organization of the American Medical Association was adopted, with several changes. The effect is to increase greatly the business efficiency of the functioning of the American Medical Association. The office of General Manager was discontinued, and the new office of Executive Vice-President was established and has been filled with a Texan, Dr. F. J. L. Blasingame, effective January 1. He now is the chief staff executive of the Association.

The Texas Delegation introduced a resolution suggesting the creation of a separate Council on Insurance, because its study of the Heller Report had pointed out the fact that the present Council on Medical Service has been given so many responsibilities that eight committees have been working on various sub-divisions of the responsibilities and yet it has been somewhat difficult for the public to recognize easily the group on the AMA level to which inquiries on insurance could be directed, and from which authoritative statements could be expected. After a visit with the Council on Medical Service, the Texas group found that the Council shared with it an awareness of the acuteness of the insurance situation, and withdrew its resolution for this session, because it felt that the Council on Medical Service is on the eve of launching a very comprehensive, positive program of action.

Strong condemnation was voiced of the so-called Forand Bill (H. R. 9467), which is pending before the current session of Congress. This bill would broaden the Social Security System to provide hospital and medical care for 13 million recipients of Social Security benefits—a most pernicious expansion in the federalization of medical care in this country. All Texas doctors are urged by the Texas Delegates to familiarize themselves with the provisions of the bill and then to express themselves quickly to their Congressmen.

There was much discussion of a study made jointly by the Council on Drugs and the Council on Foods and Nutrition concerning the matter of the fluoridation of public water supplies. A comprehensive report, well documented, endorsed the fluoridation of public water supplies as a safe and practical method of reducing the incidence of dental caries during childhood. The final comment approved by the House of Delegates stated, "fluoridation of public water supplies should be regarded as a prophylactic measure for reducing tooth decay at the community level, and is applicable where the water supply contains less than the equivalent of 1 ppm of fluorine." The discussion was kept on a strictly scientific level, with no discussion of the aspects of compulsion, since the members believed each community should decide for itself whether or not it wishes to adopt fluoridation of water.

The free choice of physician was emphasized in a number of ways. The House adopted a resolution condemning "the current attitude and method of operation of the United Mine Workers of America Welfare and Retirement Fund, as tending to lower the quality and availability of medical and hospital care to its beneficiaries." The resolution also called for a broad educational program to inform the general public, including the beneficiaries of the fund, concerning the benefits to be derived from preservation of the American right to freedom of choice of physicians and hospitals. This issue is acute in Colorado, but the principle involved concerns physicians all over the country, including Texas.

A full report of the actions of the House of Delegates of the AMA will be found in the *Journal of the American Medical Association* soon, and every Texas doctor is urged by the Texas Delegates to review it.

Medical Education and Licensure Congress To Be Held in Chicago February 8-11

The fifty-fourth annual Congress on Medical Education and Licensure will be held at the Palmer House in Chicago, February 8-11. Sponsors include the Council on Medical Education and Hospitals of the American Medical Association, Advisory Board for Medical Specialties, and Federation of State Medical Boards of the United States. Four closed workshops will be held concerning major areas of population, society, economy, and medical knowledge.

AMA Features New Exhibits

Accidental poisoning of children and weight reduction are the themes of the American Medical Association's new exhibits which they will offer to medical societies early in 1958.

"You Can Reduce" stresses the importance of using will power in the selection of foods. It illustrates the basic foods which should be eaten. "Poisoning of Children in the Home" points out eight leading offenders, such as aspirin, kerosene, old medicines, and household chemicals.

Medical society bookings may be arranged through the bureau of exhibits.

★ Texas Medical Association

Local Committee Chairmen Named For April 19-22 Annual Session

Dr. Hiram P. Arnold, chairman of the Committee on General Arrangements for the 1958 annual session in Houston, has announced the appointment of the following local committee chairmen to serve for the April 19-22 meeting:

Committee on Alumni and Fraternity Activities.—Dr. John L. Perry.

Committee on Entertainment.—Dr. J. T. Billups.

Committee on Halls and Lanterns.—Dr. Jack Abbott.

Committee on Hotels.—Dr. A. C. Dwyer.

Committee on Information.—Dr. D. L. Moore.

Committee on Memorial Services.—Dr. George Waldron.

Committee on Publicity.—Dr. Thomas L. Royce.

Committee on Sports.—Dr. Fred P. Thomas.

All chairmen are from Houston.

The Shamrock Hilton Hotel in Houston will be the scene of the majority of the Association's activities during its ninety-first annual session next spring, local arrangements for which are being made by the Committee on General Arrangements.

★ County Societies

County Societies Elect Officers

County societies to the Texas Medical Association have announced the following new officers for 1958.

Bell—President, Dr. John J. Christian, Temple; president-elect, Dr. A. R. Kirkley, Belton; vice-president, Dr. W. H. Daly, Killeen; secretary-treasurer, Dr. Kirkley; delegates, Dr. G. V. Brindley, Jr., Dr. Robert A. Murray, both of Temple.

Brown-Comanche-Mills-San Saba—President, Dr. Philip S. Gold, Brownwood; vice-president, Dr. Richard C. Felts, San Saba; secretary-treasurer, Dr. Lee K. Ory, Comanche; delegate, Dr. S. Braswell Locker, Brownwood.

Caldwell—President, Dr. William G. Robertson, Jr., Luling; secretary-treasurer, Dr. P. A. Wales, Lockhart.

Colorado-Fayette—President, Dr. W. T. Youens, Columbus; vice-president, Dr. J. E. Cummins, Weimar; secretary-treasurer, Dr. Rex G. Fuller, Jr., Weimar; delegate, Dr. J. C. Laughlin, Eagle Lake.

Comal—President, Dr. John K. Schaefer; vice-president, Dr. Fred Frueholz, Jr.; secretary, Dr. Stanley M. Woodward; delegate, Dr. Arthur Bergfeld, New Braunfels.

Dallas—President, Dr. Andrew B. Small; president-elect, Dr. Floyd A. Norman; vice-president, Dr. Porter K. Mason; secretary, Dr. Charles Max Cole; treasurer, Dr. George N. Aldredge, Jr.; delegates, Dr. Guy T. Denton, Jr., Dr. Ridings E. Lee, Dr. D. W. Carter, Jr., Dr. Frank H. Kidd, Jr., Dr. George M. Jones, Dr. Oscar M. Marchman, Jr., Dr. Barton E. Park, Dr. George V. Launey, Dr. John S. Chapman, Dr. Arnott DeLange, Dr. Glenn D. Carlson, Dallas.

East Harris Branch of Harris—President, Dr. W. H. Bridges, Baytown; president-elect, Dr. Earl T. Sammons, Highlands; vice-president, Dr. W. T. Jones, Baytown; treasurer, Dr. T. S. Howell, Baytown; secretary, Dr. P. R. Fayle, Baytown.

Erath-Hood-Somervell—President, Dr. Homer V. Hedges, Hico; vice-president, Dr. Joe J. Pate, Dublin; secretary-treasurer, Dr. W. F. Hafer, Hico; delegate, Dr. J. C. Terrell, Stephenville.

Jefferson—President, Dr. Walter E. McRee, Port Arthur; president-elect, Dr. H. Buford Barr, Beaumont; vice-president, Dr. L. C. Carter, Port Arthur; secretary-treasurer, Dr. Houston F. Byrd, Port Neches; delegates, Dr. Carter, Dr. S. Pierre Robert, Dr. Edmund D. Jones, both of Beaumont.

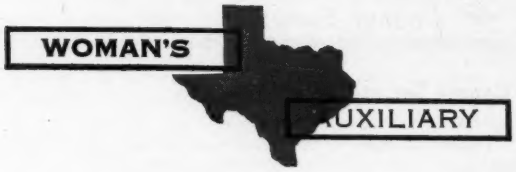
Kerr-Kendall-Gillespie-Bandera—President, Dr. Joshua Seidel; vice-president, Dr. Edward L. Dyer; secretary, Dr. Julia S. Eley, all of Kerrville; treasurer, Dr. W. H. Springall, Fredericksburg; delegates, Dr. Dwight R. Knapp, Dr. C. B. Matthews, both of Kerrville.

Navarro—President, Dr. Bernard Rosen; vice-president, Dr. Robert D. Mertz; secretary-treasurer, Dr. A. L. Grizzaffi; delegate, Dr. Paul H. Mitchell, all of Corsicana.

Washington-Burleson—President, Dr. Robert L. Schoenvogel; vice-president, Dr. Herbert L. Steinbach; secretary-treasurer, Dr. Charles E. Southern; delegate, Dr. Robert A. Hasskarl, all of Brenham.

Webb-Zapata-Jim Hogg—President, Dr. Morris Esak Malakoff; vice-president, Dr. Stephen H. Graham; secretary-treasurer, Dr. Leonides G. Cigarroa; delegates, Dr. Joaquin G. Cigarroa, Jr., Dr. James S. Reitman, all of Laredo.

Williamson—President, Dr. Douglas M. Benold, Georgetown; vice-president, Dr. Marvin J. Leshikar, Taylor; secretary-treasurer, Dr. H. R. Gaddy, Jr., Georgetown; delegate, Dr. Jay J. Johns, Taylor.



Auxiliaries Push Safety Programs

Safety is a natural concern of women. And since doctors' wives, more than most women, are in a position to know about the tragic results of accidents that might have been prevented, it is not surprising that medical auxiliaries throughout the state are pushing their safety programs.

Whenever possible, local auxiliaries, instead of working alone, join forces with a local safety council, so that there is no duplication of effort or confusion of aims.

In El Paso, Bexar, and Tarrant Counties, for example, auxiliary members worked with safety councils to promote driver education courses in the public high schools.

Probably no city in Texas was made more safety-conscious than El Paso during the past year, thanks to the imaginative and untiring efforts of a doctor's wife who by happy circumstance is both chairman of public relations for the El Paso County Medical Auxiliary and safety chairman of the Woman's Department of the El Paso Chamber of Commerce. Working with both groups and steering them toward close cooperative effort, Mrs. Haskell Hatfield made safety front page news in her city.

During the month that the two organizations concentrated on home safety, they distributed 50,000 folders stressing safety reminders to members of women's clubs, in addition to 50,000 distributed through the schools. Newspapers, television, and radio, impressed by the organizations' safety drive, gave them much publicity.

When they turned their attention to road safety, they sparked the drive with a contest between men and women to see which are the safer drivers. Dubbing it the "Battle of the Sexes," they managed to get the whole town interested. "Safety is rather a dull subject, but everyone seems to be interested in sex," is how Mrs. Hatfield accounts for the fact that her publicity-wise "Battle of the Sexes" had the whole city watching the weekly reports on men versus women as safe driving champions. At last count, the women were ahead—the men having four times as many traffic accidents chalked up against them as did the women.

When the El Paso Auxiliary sponsored a safety forum, four doctors conducted a panel discussion of "Safety as Related to Health." Among those who attended the forum were representatives of the city government, public schools, and police department and presidents of all the women's clubs in El Paso. Now that their one year's safety drive has been so successful, plans are being made to see that it is a continuing project, with all organizations in the city being asked to participate.

While the El Paso Auxiliary's efforts on safety education have been outstanding, the safety programs of many other auxiliaries throughout the state also have met with considerable success.

The following are the three main goals of the state-wide Auxiliary program:

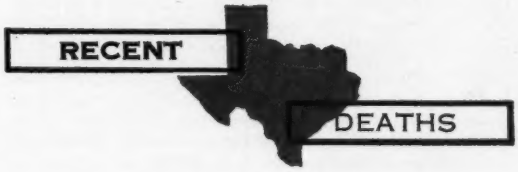
1. A driver education course in every high school.
2. Shop for safety when you buy a car.
3. Institute GEMS (Good Emergency Mother Substitutes) courses in public schools to train girls for baby sitting.

It also has been suggested that auxiliaries in towns where poison control centers have been set up may find in these centers another opportunity for service.

The safety work of Texas medical auxiliaries was recently acknowledged when Mrs. H. S. Renshaw, state President, was invited to attend the Texas Safety Conference to be held in Dallas in March.

—MRS. FREDERICK C. LOWRY, Austin.

Officers of the Woman's Auxiliary to the Texas Medical Association for 1957-1958: President, Mrs. Horace S. Renshaw, Fort Worth; President-Elect, Mrs. John D. Gleckler, Denison; First Vice-President, Mrs. John H. Wootters, Houston; Second Vice-President, Mrs. J. C. Terrell, Stephenville; Third Vice-President, Mrs. Richard L. Hudson, Corpus Christi; Fourth Vice-President, Mrs. H. O. Padgett, Marshall; Fifth Vice-President, Mrs. O. N. Mayo, Brownwood; Treasurer, Mrs. William C. Barksdale, Borger; Recording Secretary, Mrs. Harold Lindley, Pecos; Corresponding Secretary, Mrs. J. Franklin Campbell, Fort Worth; Publicity Secretary, Mrs. F. C. Lowry, Austin; Parliamentarian, Mrs. Ramsay H. Moore, Dallas; Executive Secretary, Miss Hazel Casler, Austin.



DR. PAUL G. PHILLIPS

Dr. Paul Givens Phillips, Conroe, Texas, died November 2, 1957, in Montgomery County from contrecoup frontal lobe injuries which resulted from a car accident.

Dr. Phillips, son of Mr. and Mrs. W. P. Phillips, was born July 8, 1917, in Dallas. He attended public schools in Nashville, Tenn., and was graduated from Baylor University, Waco, in 1940, and Southwestern Medical School, Dallas, in 1944. He served his internship at Jefferson Davis Hospital, Houston, and his residency at Baptist Memorial Hospital, Houston, and Montgomery County Hospital, Conroe. He began practice in Houston in 1944 and he moved to Conroe in 1947, where he practiced for 10 years, giving special attention to internal medicine. He was a captain in the United States Army Reserve Medical Corps from 1945 to 1954.

He was a member of the Texas Medical Association and American Medical Association through the Montgomery County Medical Society, and previously belonged to Harris Count Medical Society. He belonged to Phi Chi medical fraternity and was on the Board of Deacons of the First Baptist Church, Conroe.

Dr. Phillips and Miss Ruth Rountree were married September 29, 1945, in Alvin. She survives as do four children, Daniel, Delia, Jeffery, and Joel, all of Conroe; his parents, Tyler; and two sisters, Mrs. Morton McLean, Nashville, Tenn., and Mrs. Walter Smithwick, Lebanon, Tenn.

An obituary ordinarily will not be published more than four months after date of death. Cooperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

DR. LEWIS B. HOLLAND

Dr. Lewis Benedict Holland, Wichita Falls, Texas, died August 24, 1957, as a result of a myocardial infarction.

Dr. Holland, born January 20, 1895, in Whiteright, was the son of W. F. and Lula (Benedict) Holland. He attended high school in Whiteright and Austin College at Sherman, and was graduated from Baylor University in Waco, where he was a member of the football team from 1916 to 1918. He received his medical training from Baylor Medical College, Dallas, where he served his residency after he had graduated in 1923. He had practiced in Wichita Falls since 1927. Dr. Holland was in the medical corps of the Navy during World War I.

He was a member of the Texas Medical Association, for which he served as vice-president in 1938, and was elected an honorary member of the organization in 1956. He was

DR. LEWIS B. HOLLAND

also a member of the Wichita County Medical Society, serving as president in 1940, Masonic Lodge, Kiwanis Club, and Baptist Church. He served as president of the hospital staffs at the Bethania Hospital and General Hospital.

Survivors include his wife, the former Miss Gladys Sears, two children, Mrs. Ralph Knight, and Lewis B. Holland, Jr., both of Wichita Falls; and two grandchildren.

DR. SAM D. BARCLAY

Dr. Sam Daniel Barclay, Houston, Texas, died of a heart attack on November 14, 1957, in Laredo, where he and a group of friends from Crockett were awaiting the opening of deer season.

Born December 2, 1904, in Kennard, Dr. Barclay was the son of Dr. R. L. and Dora (Daniel) Barclay. He received his preliminary education in Kennard. He attended Sam Houston State Teachers College, Huntsville, and the University of Texas, Austin, and was graduated from Baylor University Medical College, Dallas, in 1930. He did postgraduate work at Cook County Hospital, Chicago, New York Polyclinic Hospital, New York, and Mayo Clinic, Rochester, Minn. He interned at the Methodist Hospital, Dallas, and Hermann Hospital, Houston. Dr. Barclay practiced briefly in Kilgore and Baytown before establishing an office in Crockett, where he remained about 18 years. In 1952, he moved to Houston where he specialized in surgery and proctology.

He was a member of Harris County Medical Society, Texas Medical Association, American Medical Association, Southern Medical Association, District 9 Medical Society, and Southwest Surgical Congress. He was a charter mem-

DR. SAM D. BARCLAY

ber of the American Academy of General Practice. He was previously a member of Anderson-Houston-Leon Counties Medical Society and District 11 Medical Society, both of which he had served as president.

Dr. Barclay served as health officer for Houston County for 17 years and as a member of the school board for Houston County Public Schools. He belonged to the Postgraduate Medical Assembly in Houston, Dallas Southern Clinical Society, Phi Chi medical fraternity, Doctor's Club, Coltharp Lodge in Kennard, Knife and Fork Club, Optimist Club, and Pine Forest Country Club. He also was a Mason.

Dr. Barclay and Miss Ferne Wilson married December 28, 1933, in Dallas. Survivors include his wife, a son, Sam D. Barclay, Jr., Houston; and a brother, R. L. Barclay, Jr., Crockett.

DR. CARL E. JUMPER

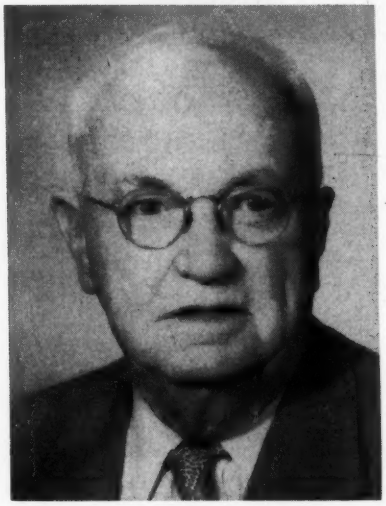
Dr. Carl Everett Jumper, El Paso, Texas, died November 25, 1957, at his home.

Born February 21, 1878, in Terre Haute, Indiana, Dr. Jumper was the son of Theo and Clara (Hicklin) Jumper. He received his preliminary education in the public schools in Terre Haute and was graduated from the former Baltimore Medical College in 1904. He externed at Maryland General Hospital, Baltimore, and did postgraduate work at New Orleans Polyclinic, New Orleans, in 1913, and at Post Graduate Medical School, Chicago, in 1920.

He began his medical practice in Little Rock, and later practiced in Mexico, working in Oaxaca, Coahuila, and Durango for 25 years except for a year of military service as a first lieutenant in the United States Army Medical

Corps in 1918. He moved to El Paso in 1931 where he remained the rest of his life. He served as a captain and then lieutenant colonel in the Texas National Guard in El Paso from 1942 until 1956, at which time he retired from active practice.

Dr. Jumper was an honorary member of the El Paso County Medical Society, American Medical Association, and Texas Medical Association. He belonged to the Southern Medical Association, Southwestern Medical Society, and the Medica-Mexicana Medical Association in Mexico. He was affiliated with the American Legion, Shrine, Masonic Lodge,



DR. CARL E. JUMPER

Knights of Pythias, and the Presbyterian Church. He served on the staff of the Hotel Dieu Hospital. In Mexico, Dr. Jumper also was treasurer of the Association Medica de la Laguna and assistant medical director of Sanatorio Espanol de Torreon.

Dr. Jumper and Miss Dolores Dano, formerly of Torreon, Coahuila, Mexico, were married in 1921 in Lerdo Dgo, Mexico. She survives, as do three children, Mrs. Gordon Rogers, Mrs. Raul Uro, Mexacali, Calif., and Mrs. Dorothy Hasler, Fairland, Ind.; a brother, Chelsea H. Jumper, Los Angeles; a sister, Mrs. Dode Evinger, West Terre Haute, Ind.; and nine grandchildren.

DR. J. E. ARMSTRONG

Dr. James Edward Armstrong, Paris, Texas, died October 5, 1957, at his home.

He was born October 26, 1877, in Biardstown, and was the son of Thomas D. and Mary Catherine (Elam) Armstrong. Dr. Armstrong was graduated from Sam Houston State Teachers College, Huntsville, in 1904 and from the University of Tennessee, Memphis, in 1907. He did graduate work at Tulane University, New Orleans. Dr. Armstrong began practice in 1907 in Biardstown and remained there until 1933 when he moved to Paris, where he practiced until his death.

Dr. Armstrong was a member of the Texas Medical Association and the American Medical Association through the Lamar County Medical Society, which he served as a past president. He belonged to the Fourteenth District Medical Society and the Southern Medical Association. He served as county health officer for 24 years and was medical examiner for the Selective Service Board. He was on the staffs of the St. Joseph's and Lamar County Hospitals. He was a member of the Masonic Lodge, Chamber of Commerce, and First Baptist Church. Recently he was honored for 50 years' practice and awarded the golden "T" certificate from the University of Tennessee.

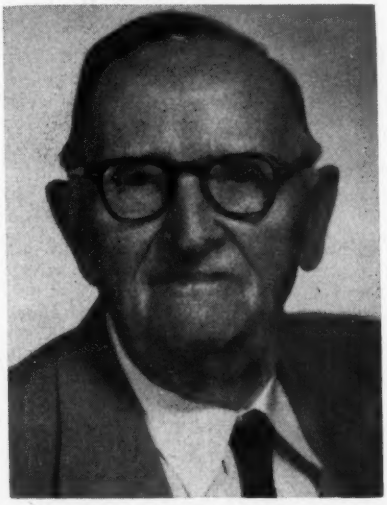
Dr. Armstrong and Miss Mattie O. Hagood were married February 7, 1909, in Enloe. He is survived by his wife; five children, Dr. James Edward Armstrong, Jr., Houston; Dr. John T. Armstrong, Houston; Norman Hagood Armstrong, San Antonio; Mrs. T. S. Dabney, Lake Village, Ark.; and Frank Lindsay Armstrong, West; a brother, Bill Armstrong, Biardstown; and a sister, Mrs. Minnie Fields, Paris.

DR. ADOLPHUS E. STARNES

Dr. Adolphus Eugene Starnes, Hughes Springs, Texas, died September 14, 1957, from nephritis.

Dr. Starnes, the son of J. J. and Mary Starnes, was born February 18, 1872, in Wills Point. He was graduated from the University of Chicago, Chicago, Ill., and received his medical degree from the University of Louisville School of Medicine, Louisville, Ky., in 1906. He began his practice, making his calls on horseback, in Avinger in 1900. He had practiced in Hughes Springs for 53 years. The citizens of the town honored Dr. Starnes in 1952, celebrating 50 years of practice in the community.

He was a member of the American Medical Association and an honorary member of the Texas Medical Association



DR. ADOLPHUS E. STARNES

through Cass-Marion Counties Medical Society for which he had served as president. Dr. Starnes was also a Mason, vice-president of the First National Bank, of which he was one of the organizers, and former president of the School Board and City Council, and member of the Board of Stewards at the Methodist Church.

Dr. Starnes and Miss Josie Dyer were married in 1900 in Greenville. After her death in 1953, he married Mrs. Minnie Mills of Winsboro, who survives him, as does his son, Donald D. Starnes, Mineola.